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LIFE OF ADMIRAL SIR LEOPOLD McCLINTOCK

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J. L. McIntock.

1915

LIFE OF ADMIRAL SIR LEOPOLD M^cCLINTOCK

K.C.B., D.C.L., LL.D., F.R.S., V.P.R.G.S.

BY AN OLD MESSMATE
SIR CLEMENTS MARKHAM, K.C.B., F.R.S.

WITH AN INTRODUCTORY NOTE BY
THE MOST REV. WILLIAM ALEXANDER, D.D.
ARCHBISHOP OF ARMAGH

WITH PORTRAITS, MAPS, AND ILLUSTRATIONS

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PREFACE

THE materials for a Life of Sir Leopold M'Clintock consist of journals, note-books, reports, official documents and letters, but chiefly of the reminiscences of surviving shipmates and of members of his family. No one who served in the expedition of Sir James Ross in 1848–9 survives. Three of Sir Leopold's old messmates in the *Assistance*, 1850–1, are living,[1] but none of those in the *Intrepid*, 1852–4. Two of his comrades in the *Fox* survive.[2] Two officers of the *Resolute* during the expedition of 1852–4 are also living.[3] Several officers of the *Doris*, *Aurora*, and *Northampton* are still flourishing. All the surviving Arctic shipmates have given their willing help, and several others; but the most important aid has come from Lady M'Clintock and Mr. Henry M'Clintock, as well as nearly all the written material. With this assistance, without which the work could not have been undertaken, the biography has been written by

[1] Admiral Sir Vesey Hamilton, G.C.B.; Sir Clements Markham, K.C.B.; Dr. Charles Ede, M.D.

[2] Sir Allen Young, C.B., C.V.O.; Dr. Walker.

[3] Admiral Sir Vesey Hamilton, G.C.B.; Admiral Sir George Nares, K.C.B.

a midshipman who served under Sir Leopold McClintock in the *Assistance*. He has felt the great responsibility, but, being sure of such very efficient help, he has undertaken the grateful task, and performed it to the best of his abilities. Acknowledgments are due to Colonel H. W. Feilden, C.B., for the List of Arctic Birds, and for some valuable notes on the Arctic Flora in the Appendix.

INTRODUCTORY NOTE

BY THE MOST REV. WILLIAM ALEXANDER, D.D., ARCHBISHOP OF ARMAGH, PRIMATE OF ALL IRELAND

IN an age of excitement like the present, it is refreshing to feel sure of this at least, that there is always a considerable number of English readers so far above the caprices of contemporary literature as to feel pleasure in the delineation of such a noble and inspiring life as that which is contained in the present volume. This brief foreword is addressed to such readers.

The heroic naval officer whose life is carefully delineated in this volume was a kinsman of the writer of this brief introductory notice. He frequently met Sir Leopold M'Clintock, and knew some who had served under this great officer. One who had every opportunity of personal observation remarked an interesting trait in that splendid character. Usually the Admiral was reserved and somewhat indisposed to talk, but the approach of an emergency, possibly not without indications of danger, seemed to inspire him with the lofty touch of exhilaration

which is the peculiar gift of the bravest alone. His face lit up with animation, and his words came with more than usual readiness and cheerfulness of tone. His written style was unambitiously accurate, and free from display, and an indication of the truth of a great critic's saying, "Le style c'est l'homme." To many Sir Leopold was a standing proof of the fine strength of the stock from which he came, which has lost little and gained much by being transferred to Irish soil.

It may be safely said that this book is a record of duty manfully done and danger heroically confronted, of victories won over a fierce ocean and terrible climate, of unparalleled abstinence from conceit in recording splendid services.

He who writes these lines can safely say that he never came in contact with a life more noble and inspiring, more humble to God and more tender to man: humble without affectation, and tender without weakness.

A storm of words is breaking upon our English world at present, and some are demanding a more scientific system of morality than we at present possess. Christ is the theology of His Church. He is also its morality. Is there any other moral system which will give us men like Leopold McClintock?

WILLIAM ARMAGH.

October 5, 1908.

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ERRATA

p. 58, l. 19, *for* "line" *read* "limb"
p. 172, l. 18, *for* "east" *read* "west"
p. 229, last line, *for* "east" *read* "west"
p. 233, l. 11, *for* "west" *read* "east"
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LIFE OF ADMIRAL SIR LEOPOLD McCLINTOCK

CHAPTER I

SIR LEOPOLD McCLINTOCK'S FAMILY AND EARLY LIFE—THE FIRST TWELVE YEARS IN THE NAVY

A STUDY of the lives of great explorers, especially of the few whose genius has been the means of effecting important results by new ways, is time well spent. We learn the kind of training that was necessary, the special qualities that were needed to give effect to such training, and the incitements that impel men, so gifted, to great achievement. All these combined forces—the training, the qualities of the individual, and the incitements to action—differ according to the work to be achieved. We see a Humboldt trained from early youth to be a close observer of nature, with great natural gifts, incited by the pure love of science. We see a Livingstone trained to appreciate and understand his fellow-men, endowed with a rare combination of great qualities, finding his incitement in the noble desire to benefit the race

to whose welfare he devoted his life. We find a Cook, trained in a school of adversity and hardship, combining in his character very rare gifts of head and heart, and led to success, first by sympathy with those under his command, but equally by what Prince Henry the Navigator adopted for his motto, the "Talent de bien faire." These three elements—the training, the personal qualities, and the incitement to achieve success—must be studied in order to understand the lessons taught by the lives of all great explorers.

In the career of Sir Leopold McClintock we shall see how admirably the means were adapted to the end. The training in the navy of his early days gave him, with professional knowledge, a high sense of duty to his country. His personal qualities will be seen to have enabled him to turn that training to the best account, and no higher incitement could be supplied to such a man than the rescue of the lost ones. The noble cause of humanity was his incitement to great achievement.

Before entering upon the story of his training in the navy of seventy years ago, it is desirable that the reader should be made acquainted with his family history and the surroundings of his childhood.

The family was of Scottish origin, being descended from an Alexander McClintock, who settled near Londonderry at about the time of the plantation of Ulster, early in the seventeenth century.

John McClintock of Drumcar, co. Louth, was born in 1742. He was a large landed proprietor, and for some time M.P. in the Irish House of Commons. He married Patience, daughter of John William Foster, M.P., of the same county, and first cousin of John Foster Lord Oriel, the last Speaker of the Irish House of Commons. Their eldest son, John—who married first Miss Bunbury, an heiress, and secondly Lady Elizabeth Trench, daughter of the Earl of Clancarty—was the father of the first Lord Rathdonnell, also of Lieut. W. Bunbury McClintock, mentioned later in the narrative.[1] Their youngest son, Henry, was for some time in the 3rd Dragoon Guards, but on his marriage he sold out and obtained, through family interest, an appointment as head of the Custom House at Dundalk, which is only twelve miles from his father's place at Drumcar.

Dundalk is finely situated on the shores of a bay about forty miles north of Dublin, with high land to the north and the level plain of Louth, stretching on into Meath, to the south. Although, owing to wars and neglect, it shows few remains of interest at the present day, Dundalk is a place of considerable antiquity. From its position both as a seaport and as commanding the road between the mountain passes to the north and the rich plains to the south,

[1] He afterwards assumed the names of McClintock Bunbury. He was in Parliament for many years, and his son is the present Lord Rathdonnell.

it has played a considerable part in history. In legendary days it was the home of the great warrior and hero, Duchullain, the remains of whose stronghold of Dun-dalgan are still to be seen on a hill overlooking the town, and in fact give Dundalk its name. In the tenth century the bay was the scene of a considerable sea fight between the fleets of the Irish of Munster and the Scandinavians of Dublin, in which the former were victorious. In Norman times the town was walled and became a royal borough. In the fourteenth century it was the scene of the curious episode of Edward Bruce's invasion and coronation as King of Ireland. He took Dundalk with great slaughter on June 29, 1315, and was crowned by his followers immediately after this success. Three years later he was defeated and killed at Faughart, two miles north of Dundalk, where his grave is still shown. Dundalk again figures considerably in Schomberg's campaign of 1689–90, after the relief of Londonderry and before the battle of the Boyne, for it was here that King William's army spent the winter.

Soon after Henry M^c^Clintock came to this old town of Dundalk in charge of the Custom House, he married Elizabeth Melesina, daughter of the Ven. Dr. Fleury, D.D., Archdeacon of Waterford. She was a very pretty woman, of remarkable ability and energy. The Archdeacon was of an old Huguenot family from near Rochelle, his wife being an English lady.

Francis Leopold was the second, but eventually the eldest surviving, son of Henry McClintock and Elizabeth Melesina Fleury, being one of a family of twelve who grew up, besides two who died in infancy.[1] He was born on July 8, 1819, at 1, Seatown Place, Dundalk. He first went to a dame school, and when he had reached the age of eleven, he was sent to Dundalk School, which was then kept by the Rev. John Darley, afterwards Bishop of Meath.

McClintock's early home was a very happy one, and he always said that, throughout his whole life, he felt thankful for its good influence. His father was a poor man with a very large family, and life in a small Dundalk house was of necessity simple. But high religious principle

[1] 1. Louis died young.
2. FRANCIS LEOPOLD.
3. Alfred Henry, M.D., born October 21, 1821. He marrie in 1848 Fanny, daughter of John Loftus Cuppaidge, nephew of Lord Castlemaine. He died October 21, 1881, leaving two sons and three daughters.
4. Theodore Ernest, Lieut.-Colonel.
5. Charles Fortescue.
6. Isabella Marian, married first in 1838 to J. Shallcross Battersby, who died in 1847; secondly, to E. Spencer Dix, who died in 1876.
7. Anne Louisa, married to F. Hall Tipping, who died in 1874; second son of Edward Tipping of Bellurgan Park co. Louth.
8. Emily Caroline, married in 1840 to Captain Charles H. Paget, R.N., son of Vice-Admiral the Hon. Sir Charles Paget, K.C.B.; secondly, in 1848 to Captain J. B. Gardiner.
9. Rosa Melesina, married to B. Wills Richardson, of Dublin.
10. Florence Gertrude, married to George Alloway.
11. Emma Patience, married in 1854 to H. J. Dix.
12. Emily Anna Foster, married in 1857 to G. Crozier, M.A., who died in 1874.

and deep family affection reigned in the household. His father's diary and his mother's letters show how much the young sailor was missed at home, and followed with tender counsel and loving prayers. But his early life, though simple, was by no means dull. His father was one of the most popular of men, a musician, a good rider and sportsman, and was connected, by relationship or friendship, with all the neighbouring county families, who were more numerous and better able to show hospitality than in these days of landed depression. The monotony of life at Dundalk was relieved by a great deal of social intercourse.

It is curious to remember the slight causes which lead to the choice of a profession. Sir Leopold could recollect three reasons which led him, as a child, to wish to be a sailor. One was because his cousin, W. Bunbury McClintock, was a sailor, another because of a print of Admiral Berkeley in uniform which hung in his father's dressing-room, and the last, but not least, was because he had been told that a knowledge of Latin was not required in the navy. The child's wish was suddenly granted before he had completed his twelfth year. Captain Charles H. Paget was commissioning the *Samarang*, and had no one in particular to whom he wished to give the appointment of a first-class volunteer,[1]

[1] Since 1843 the name has been changed to the grander one of naval cadet.

to which a captain was entitled. So he transferred his patronage to his first lieutenant, W. Bunbury McClintock, who at once offered the appointment to his uncle Henry for his small son who wanted to go to sea. The letter was dated June 20, 1831. The boy was to start for Portsmouth at once.

The coach left Dundalk the same day that the letter arrived. So the outfit was hurriedly put together, consisting of twelve shirts, three pairs of drill and six pairs of duck trousers, and his ordinary clothes. In the afternoon of the day of departure he was put to bed, and the blinds drawn down, but the excitement was too great for him to sleep. At 8 p.m. he started in the mail coach *Lark* under charge of Mr. Perkins, a tide waiter in the Dundalk Custom House. He took with him his most valued possessions, a bag of marbles and a bottle into which he had squeezed some apple-juice. He and Mr. Perkins reached Dublin the next morning, June 21, at 6 a.m. They then embarked on board the steamer *Express* for Bristol. A voyage of twenty-five hours brought them to their destination; and the coach from Bristol to Portsmouth took them eight or ten hours more. It was a very long, tedious journey, and the child must have been dead tired when at length Portsmouth was reached.

Mr. Perkins took him on board the hulk where the officers and men of the *Samarang* were living while fitting out the ship. The first lieutenant

was on shore, dining with his brother, an officer in the Portsmouth garrison. When he came off he went down to the midshipman's berth to look for his young cousin. He said the boy was so small that it was like looking for a flea in a blanket. Later on the small cousin was weighed against the first lieutenant's Newfoundland dog "Iky" and weighed 68 lb., beating the dog by 2 lb. His height was found to be 4 ft. 6 in. Naval buttons were sewn on his jacket, this being considered sufficient uniform for the present. There was no entrance examination in those days. The date of the appointment is June 22, 1831. Having delivered his charge over to the captain, Mr. Perkins took his leave with the following injunction: "Good-bye, Master Leopold, and never turn your back to the enemy while you've a face to face him with." [1]

When McClintock entered the navy in 1831, nothing had been changed since the Napoleonic wars. In spite of the exposure of abuses and the strong recommendations of the Royal Commission fifteen years before, the Navy Board still existed, with all the jobbery, sinecures, and abuses. The drastic reforms of Sir James Graham were the work of the next few years. There were no steamers in the navy, and the naval officers were then sailors, with a knowledge of

[1] Old Mr. Perkins wrote McClintock a letter when he was fitting out the *Fox*, advising him never to go where he could not come back from.

seamanship in all its details, acquired by practice and constant study from a very early age.

The *Samarang* was a small frigate carrying 28 guns, 500 tons burden, length of gun deck 113 ft., and the lower deck only 4 ft. 9½ in. high. Her officers and ship's company numbered 160. Her captain was a son of Admiral the Hon. Sir Charles Paget and had reached his post rank at the early age of twenty-three. When he commissioned the *Samarang* he was twenty-six, six years younger than his first lieutenant.[1] The first lieutenant, W. B. McClintock, was a very smart officer. He was one of the first, if not absolutely the first, to introduce the use of "port" instead of "larboard" into the service. He moreover exerted a very good influence over his young cousin at a time when excess was but too common in the navy. "Billy Bun"—for that was the first lieutenant's nickname—the boy would say, doesn't drink or swear, so I don't mean to either. He subsequently inherited a fortune, retired from the navy, and went into Parliament. The officers, and more especially the captain, were very kind to young McClintock. In a letter written in a childish hand the day before he became twelve, he says: "I like every one in the ship, particularly Captain Paget's little lovely lap-dog." His nickname on board was Pat. "Of course my general name is Paddy,

[1] The first lieutenant was then thirty-two. He was not made a commander until he was thirty-six.

sometimes Pat for shortness. They are very fond of asking me which way did the *bull* run. I tell them *straight* down the *crooked* lane." At first he had no regular duty to do on board, and afterwards he was put on day duty but excused all night watches.

The ordinary uniform of naval officers in 1831 was very different from what it is now. Caps had a gold band round them without a crown. There were no frock coats; they date from 1848. Jackets were worn, and tail coats, monkey jackets or great coats in night watches. Lieutenants had only one epaulette, with no badge on it. Mates had neither epaulette nor wing. Midshipmen wore the white patch, but *outside* the collar of jacket and coat. There was some variety in the shape of cocked hats. In a frigate the lieutenants, marine officers, master, and heads of civil departments messed in what was called the gun-room. There were no naval instructors. Mates, assistant surgeons, second masters, clerks, midshipmen, masters' assistants, and volunteers messed in what was called the midshipmen's berth, in the ship's side on the lower deck, with just room for a long table and lockers. Any one over 4 ft. 9 in. could not stand up in it. Yet there was more real happiness, more fun and good fellowship; and more lasting friendships were formed in these dark little places than anywhere else in the wide world.

In the *Samarang* they were on ship's pro-

visions. Breakfast was at 8, consisting of cocoa and biscuit; dinner at 12, salt junk or pork with biscuit, and plum duff on duff days, sometimes pumpkin pie; tea at 5. The allowances of rum were taken up, but youngsters seldom touched it. In harbour there were fresh mutton or beef, vegetables, and fruit tarts. In the tropics it was a sight to see all the midshipmen in their shirt-sleeves sitting round a smoking-hot pumpkin pie. Besides these ship's provisions, M^c^Clintock sometimes got a *bonne bouche*. Captain Paget liked the blue-eyed little boy. He used to set aside stores of sweets or other delicacies from his table, and send for the small youngster to come and gobble them up. Once he said to him, laughing, that if little Pat had a sister with eyes like his he would marry her; which, strange to say, he eventually did, though her eyes were brown, and not like "little Pat's."

The *Samarang* sailed from Spithead in July 1831, and as soon as she was well at sea there was skylarking in the dog watches. Youngsters climbed about aloft, and the older officers practised boxing and single-sticks. The former was the favourite game. The captain boxed with the marine officer, the first lieutenant with one of his messmates. The only one on board who was small enough to box with M^c^Clintock was the drummer boy.

While skylarking aloft one evening, M^c^Clintock met with an accident which might have been serious. He was close up under the maintop

and tried to come down by a single rope. The one he got hold of was unfortunately the top-gallant yard rope which was stopped out. His weight was sufficient to break the stop, and he could not prevent the rope from running through his hands and burning them; so that he was obliged to let go altogether. He fell about sixty feet, but luckily on to a coil of rope, so that no bones were broken. Except that he was a good deal bruised and his hands were a little burnt, he was none the worse.

It took the *Samarang* fifty days to get from Spithead to Rio, touching at St. Michael's (Azores), and bound for the South American station, which then included the seaboards on both sides of South America. In the first part of the commission she was up the Gulf of California, and by that time M'Clintock had been appointed boat midshipman. Captain Paget frequently took this boat officer with him when he went on shooting excursions, sometimes staying away for a night or two at a time; and he presented the boy with a pea rifle, his greatest treasure for many years. While the ship was on the coast of Brazil, young M'Clintock learnt to swim in Bahia harbour, bathing with the officers, who stayed round ready to pick him up if necessary, when he jumped out of the boat. These incidents are trivial in themselves, but they indicate the sort of life the boy was leading, and the training he was going through in a particularly happy ship.

Towards the end of the commission the *Samarang* was at Callao for nearly three months, from June 5 to August 24. The officers were a good deal at Lima, and after conversations with Peruvian authorities, one of the lieutenants, who had been diligently learning Spanish for three years, conceived the idea of crossing the Andes and descending the Amazons to its mouth. Young M^c^Clintock thus witnessed, for the first time, the preparation and dispatch of a geographical expedition. His shipmate, Lieutenant W. Smyth, was an officer of an adventurous spirit, a good observer and an excellent artist. Captain Paget was just the man to encourage such a scheme, and he gave leave for one of M^c^Clintock's messmates, young Frederick Lowe, to accompany Lieutenant Smyth. On the arrival of Commodore Mason from Valparaiso in the *Blonde*, he very kindly confirmed the leave granted by Captain Paget, and gave the adventurous officers every encouragement. The President of Peru, General Don José Luis Orbegoso, came on board the *Samarang* to see the gun practice on August 23, and, when he heard of the projected voyage, he promised all the help in his power. This did not amount to much, as the Peruvian treasury was empty, but good officers, such as Pedro Beltran and the accomplished Clemente Althaus, were ordered to accompany the travellers as far as the place of embarkation on the Huallaga.

Smyth was the second Englishman [1] who ever descended the great river of Amazons. The *Samarang* sailed for England, and it was not without a pang that the two who were left behind saw the dear old ship disappear round San Lorenzo point, and reflected that those in whose society they had spent so many pleasant days would soon be dispersed, and that but few of them might ever meet again. M'Clintock was destined to be among the few. Smyth and Lowe successfully descended the great river, and their interesting narrative was published by Mr. Murray in 1836. Smyth was afterwards first lieutenant of the *Terror*, in Sir George Back's disastrous voyage to Hudson's Bay. Ten years afterwards he had the pleasure of helping young M'Clintock very materially.

The commission lasted for three years and eight months, the *Samarang* being paid off at Portsmouth in January 1835.[2] M'Clintock had now reached the age of fifteen years and a half; and had become a young officer accustomed to command men, with three years' experience as a watch keeper and a boat sailer. He went home for a well-earned holiday of four months.

On April 1, 1835, he was appointed to the *Carron*, a steamer employed on surveying service,

[1] The first was another lieutenant, R.N., named Henry Lister Maw. While serving on board H.M.S. *Menai* in the Pacific in 1827, he got leave from Captain Seymour to undertake the voyage down the Amazons. His narrative was published by Mr. Murray in 1829.

[2] Captain Paget afterwards married M'Clintock's sister Caroline.

with an exceptionally unpleasant commander. The survey was chiefly round the Isle of Man, and McClintock, being the only midshipman on board, was given day duty lasting from daylight (2 a.m. in summer) to 9 at night. He looked back on this period with no pleasure. It was an arduous and rough time. Still, he no doubt got some insight into the details of surveying work, which was a useful addition to his knowledge. The *Carron* was paid off at Woolwich on November 25, 1835, and he got another holiday of four months.

During his leave McClintock used to go out shooting, and fishing in the river Fane, with his father. Once he went out by himself, and while standing, with his gun resting on the ground, it went off, badly scorching his right cheek and filling it with grains of powder. The accident happened about a mile from the house, and he went home very frightened, being unable to see out of his right eye. He went straight to his mother, before he would let any one else see his face. A poultice brought out most of the powder, and in three or four days he was practically right again. At his age of fifteen it was early for disenchantments to begin, but it was then that they began with him. He had always believed that the steeple of Dundalk church was built of some beautiful green stone. One day he climbed to the top to explore it, and found that it was only of wood, coated with copper. It was a great shock to him.

In those days it was not really leave when officers went home at the end of a commission. They were paid off and discharged altogether, and interest was required to get another appointment. On April 8, 1836, McClintock was appointed as a midshipman to H.M.S. *Hercules*. She formed one of the Channel Fleet, then under the command of Admiral the Hon. Sir Charles Paget, father of his old captain in the *Samarang*. During the year and a half of his service in the *Hercules* (74) he was under two captains, the Hon. Maurice Berkeley until August 1837, and then Toup Nicolas, well known as a very smart officer.

In November 1837, McClintock was transferred to the *Crocodile* corvette, in the West Indies. He was in receiving ships, waiting for a passage, the *Hastings* and *Britannia*, from November 28, 1837, to February 21, 1838, and then took a passage to Bermuda in the *Vestal*, Captain Carter, from February 22 to April 9, 1838.

On April 10, 1838, McClintock joined the *Crocodile* at Bermuda, and there he passed for seamanship and became an acting mate [1] on October 23.

[1] The historic name of MATE was changed to what was presumably supposed to be the grander one of SUB-LIEUTENANT many years afterwards. The new name was not, however, unknown in the service. In Lord St. Vincent's days small craft commanded by lieutenants had one other young officer (besides a boatswain), who was called a sub-lieutenant. Lord St. Vincent found that young men in such a position, with no other commissioned officer to associate with, were utterly demoralised and ruined. He got these appointments abolished and the title disappeared, to be resuscitated many years afterwards as a grander name for mates.

His passing captains were Polkinhorne, Carter, and Lord Clarence Paget.

Soon afterwards the *Crocodile*, when off the south coast of Cuba, chased and captured a slaver named the *Mercedita*, on her way to the west coast of Africa to embark slaves. Young M'Clintock was one of the prize crew of twelve to convey her and her crew of seventeen to Havanna, where she was condemned by the Prize Court as lawful capture. The mate's share of the prize money was only £6 or £7.

Captain Polkinhorne died at Barbadoes in January 1839, and was succeeded by Captain Alexander Milne, but before his arrival, which was delayed, Captain Johnson had the acting command of the *Crocodile*. She was employed in most parts of the West Indies and North America, and was for some time visiting ports on the Spanish Main. On one occasion, when the ship was at Santa Marta, M'Clintock had a very pleasant day on shore with a party consisting of Captain Johnson and Captain Seymour. They rode out to an hacienda four miles from the town, which is famous as the place where the liberator, Simon Bolivar, died. There they slept in Spanish hammocks, and next morning bathed in the shallow river which flows past the house, while M'Clintock waded up and down, taking shots at a wild cat and at a variety of birds with the little pea rifle given to him by Captain Paget. Such incidents, of which there are not

too many in a young officer's life, form red-letter days to be noted and remembered.

After Captain Alexander Milne took command, the *Crocodile* was at Quebec and during the last summer off the coast of Newfoundland, where the officers passed their time very pleasantly in shooting and fishing. But it was now time for the young acting mate to return home and pass his other examinations for a lieutenant. He was appointed to the *Excellent* on August 28, 1841, when he had just reached his twenty-second year. He took a passage home in the *Ringdove*, Captain the Hon. Keith Stewart, arriving at Portsmouth on September 25. He had been more than three years on board the *Crocodile*.

M^c^Clintock was one year and five months in the *Excellent* and at the Royal Naval College; and obtained a first-class certificate in steam machinery and practical observations, and a second-class in mathematics. He had worked hard and steadily, and, with characteristic perseverance, he proceeded to compete for the lieutenant's commission which was given annually. But his two competitors were both gold-medal boys of their years at the old Naval College, and had enjoyed much superior opportunities of study. They were the late Admiral Sir Cooper Key and Commander Montagu Burrows, afterwards Chichele Professor of History at Oxford, with both of whom M^c^Clintock formed a lifelong friendship. Cooper Key was the successful competitor.

M'Clintock, however, received his certificate as a gunnery officer from Sir Thomas Hastings, the captain of the *Excellent*.

Thus were the ten years of training in the best school that ever existed made complete by the studies at Portsmouth. Young M'Clintock, at the age of twenty-four, had become a thorough practical seaman, a gunnery officer, a navigator, a surveyor, and an officer who understood the command and management of men. Resolute and persevering, he watched with interest and not without prescience the change that was looming in the near future. He saw that steam would very shortly create a revolution in naval construction. When he entered the navy there were no steamers. Nine years later several paddle-wheel steamers took part in the operations on the coast of Syria. Others also foresaw the great future of steam. Captain Austin [1] was among the first; Captain Henry [2] turned his shirt-sleeves up, and went through a mechanical engineer's course at Glasgow. The majority adapted themselves to the new order of things more gradually. It was twenty years before sailing men-of-war, without any auxiliary steam power, entirely disappeared. Young M'Clintock was among the few who saw what the future would bring forth; and he made a special study of steam machinery

[1] The late Admiral Sir Horatio Austin, who commanded the Arctic Expedition of 1850–1.

[2] The late Admiral Sir Hastings Yelverton, who changed the name he had when captain.

in all its details. His knowledge was destined to stand him in good stead in the years that were to come. It was part of the training for an Arctic navigator. Four more years of varied experience would complete his preparation for the arduous service which was to be the greatest work of his life. On January 31, 1843, he was appointed to the *Gorgon*, a paddle-wheel steamer commanded by Captain Charles Hotham, as gunnery mate. She was destined for the Brazilian station.

In February 1843, M'Clintock's father died at Dundalk of fever, and his mother moved to No. 2, Gardiner's Place, Dublin. Three of his sisters were already married, including Caroline, Mrs. Paget, the wife of his old captain in the *Samarang*.

M'Clintock was very fond of his old home at Dundalk, and of his "native mountains," as he called them, amongst which he spent many happy days, both as a boy and at the various times when he was on leave during his father's lifetime. He was a great walker, and very fond of shooting and fishing, both kinds of sport being to be had in plenty in the neighbourhood of Dundalk. Quails, now almost unknown, were then comparatively common in county Louth. M'Clintock was a thorough sportsman and a very good shot. He was much interested in the prehistoric antiquities with which the vicinity abounds, and was very fond of exploring the numerous cromlechs, "Danish" forts, and artificial caves which are to be found in the surrounding country.

CHAPTER II

RECOVERY OF THE *GORGON*—SERVICE IN THE PACIFIC AND MAGELLAN'S STRAIT—1843–7

THE *Gorgon* (1,142 tons) gave McClintock his first experience of service in a steamer, under one of the best and most accomplished seamen in the navy. All naval steamers were then propelled by paddle-wheels; but the screw propeller was just beginning to make its appearance. Three years after the commissioning of the *Gorgon*, the screw steamer *Rattler* towed Sir John Franklin's ship *Erebus* up to the Pentland Firth. In one of his last letters Fitzjames wrote: "Our cruise ought to settle for ever the efficiency of the screw. I doubt if any paddle-box boat could have towed an old tub like us five knots against a rough sea and strong wind, as she has done, until the hawsers parted. 'Propeller' Smith, who is on board, must be delighted. The great advantage appears to be that she does not lose dragging power by rolling, as paddle-box boats do, when one of their paddles is flourishing in the air. It requires a heavy pitch indeed to show the screw in the air." This is one of the

earliest notices of the importance of the screw propeller. The screw steamers *Renard* (Captain Nolloth) and *Plumper* (Captain Cracroft) formed part of Sir Charles Napier's squadron in 1848, but in 1843 all naval steamers were fitted with paddle-wheels like the *Gorgon.* In 1838 there were twenty steamers in the navy, the largest being the *Acheron* of 720 tons; but from that time the building of large steamers progressed rapidly, and the commissioning of the *Gorgon* of 1,142 tons by Captain Charles Hotham at Woolwich, in December 1842, was a notable event.

McClintock's shipmates were the three lieutenants Woodley, Richard Smith, and Cooper Key, his old competitor for the commission. The two mates were McClintock and Marshall, the two midshipmen Maddox and Barkley, the master Henry Barker. Touching at Bahia and Rio, the *Gorgon* arrived at Montevideo on June 19, 1843, joining the squadron of the Brazilian station. It consisted of H.M.S. *Alfred, Ardent, Vestal, Curaçoa, Satellite, Cockatrice, Spider, Viper,* the little schooner *Dolphin* and the surveying ship *Philomel,* Captain Sulivan. The *Frolic* brig arrived in August. The whole was commanded by Commodore Purvis, with his broad pennant flown on the first-named ship. At that time Montevideo was besieged by an insurrectionary army led by General Don Manuel Oribe, and an assault on the town was feared, with all its

attendant horrors.[1] The British men-of-war were, therefore, ordered to anchor as near the town as possible and as safety permitted, to protect and afford refuge to British subjects. The *Gorgon*, except during a few short cruises, was off Montevideo from June 1843 to May 1844, riding out many gales in security.

On May 10 it came on to blow, and the gale continued to increase in violence. The *Gorgon* was at single anchor with 50 fathoms on her best bower. The cable was veered to 75 fathoms, but the ship began to drive, so the small bower was let go. Fires were lighted, steam got up, and an effort was made to steam ahead so as to ease the strain on the cables. The gale, however, becoming more furious and the sea heavier, the cables were slipped, and an attempt was made to steam out clear of the land. The fury of the gale baffled all efforts. The sheet anchor was let go, but the chain parted. The night was dark when the ship struck the ground, and in the morning it was found that the *Gorgon* was broadside on to the sandy beach, at the top of the tide, and buried thirteen feet in the sand.

[1] The Republic of Banda Oriental de Uruguay was declared independent in August 1828, with Montevideo as the capital. There were two parties, the *Colorados* representing the landed proprietors, and the *Blancos* claiming to represent the people. In 1830 General Fructuoso Ribera, a *Blanco*, was declared Constitutional President. He was succeeded in March 1835 by General Manuel Oribe, a *Colorado*. In October 1838 there was a revolution which again placed Ribera at the head of affairs. After five years Oribe rose in rebellion, collected an army, and laid siege to Montevideo.

At the head of the harbour nine merchant ships were on shore, complete wrecks.

It seemed impossible to all but one man that the *Gorgon* could ever float again. Captain Hotham alone never despaired for one moment. A most accomplished seaman and gifted with inventive genius, he began, almost immediately, to put his plans into execution with full confidence in the result.

Assistance came from all directions. Every man-of-war was ready with hawsers, anchors, and all they could possibly spare. H.M.S. *Ardent* recovered both the *Gorgon's* bower anchors, but not the sheet. General Oribe rode down to the beach with sympathy and offers of help.

On the 14th anchors were laid out for heaving off, 280 tons of coal and all small stores were landed, and on the 18th the carpenters began to make foundations for fixing capstans in the sand. The next question was whether the engine, weighing 300 tons, should be got out, or kept in place to be used as the chief motive power. Captain Hotham was urged to lighten the ship by getting the engine out, but he was quite firm and kept it on board, in defiance of the entreaties of friends and the fault-finding of hostile critics. He intended to work the heaving-off purchases by means of the engine. But no purchases, how powerful soever, could move the ship out of the bed of sand in which she was fixed. For that he must rely on the exertions of officers and men.

H.M.S. *GORGON* ON SHORE NEAR MONTEVIDEO

The work imposed upon them was exceedingly hard and continuous, extending over five months; but the greatest interest was felt by all in this unique achievement in seamanship. Cooper Key, the future well-known Admiral, published a narrative of the recovery of H.M.S. *Gorgon*, three years afterwards, which gives a good account of the various operations. It was dedicated to the officers of the navy and had a large circulation among them.[1] McClintock, while performing his own duties with zeal and diligence, watched all the operations with the deepest interest, and made careful and detailed notes throughout the whole course of the enterprise. His descriptions are more detailed and clearer than the published narrative of his shipmate. They show, at this early stage, the bent of his genius, and were a very fitting preparation for the analogous qualifications needed in the founder of Arctic sledge travelling.[2]

[1] *Recovery of H.M.S. "Gorgon,"* by Astley Cooper Key, Commander R.N. (Smith, Elder, 1847), 8vo, pp. 113, with 2 charts and 16 plates.

[2] McClintock's notes were arranged under thirteen headings:

1. Getting out masts and bowsprit.
2. Getting out the 84-cwt. guns.
3. Laying out anchors and cables.
4. Application of screws.
5. The mud-dredging machine.
6. Description of the beach, and excavations.
7. Butts.
8. The swifter.
9. Capstans.
10. Lighters.
11. Purchases.
12. Camels.
13. Remarks on the first heave up.

M'Clintock's notes begin with an account of the methods adopted for getting out the lower masts and bowsprit and the two 84-cwt. guns. He then describes the swifter consisting of the *Alfred's* and *Philomel's* 13-inch stream cables passed round the ship in three turns; and the large purchases consisting of five 8-inch hawsers rove through four-fold blocks. These were lashed to the cables and to the swifter at the stern post.

The heaviest part of the work and the most important was the removal of the sand in which the ship was embedded, and the formation of a dock. Hundreds of shovels were at work, officers and men labouring together at the excavations. For months the heavy task continued, the sand having to be taken from the ship's bottom and sides and cleared away to a distance of twenty feet. Often the banks gave way or the surf broke over the defences, and the labour of a month was destroyed in a few hours. Piles, to the number of 225 in two rows with the intervening space filled with brushwood and clay, were driven across the cleared space. Then the sides of the sandbanks were faced with mortar made with clay found on the shore, and the sand was thus held back. At last the strength of the men was giving way. There were the same cheerfulness and goodwill as at first, but their countenances showed signs of exhaustion and fatigue. What a triumph of labour they had achieved! Upwards of 19,000 tons of sand had been excavated by them; and

at last they could look with satisfaction on the enormous banks raised by their hands, a monument bearing silent testimony to the unflinching, unconquerable endurance of British sailors. Mere authority and power could never have secured these results. Cooper Key most truly remarked that no strict disciplinarian, without the rare gifts of Charles Hotham, could have succeeded here. An enterprise making continual demands on the greatest physical exertions, the work consisting in the removal of sand which was constantly washed back by the force of an untiring and irresistible element almost as quickly as it was excavated, and this labour continuing without intermission, by day and night, for months, needed inspiration to guide it. No commander would have the remotest chance of success unless he had the full confidence of his men and the power of inspiring them with the conviction that, under him, their superhuman efforts would at last be crowned with success.

When the sand was removed shores had to be placed, to prevent the vessel from falling on her bilge, and the ways had to be got into position. Next a breakwater 120 ft. long was constructed; and a channel had to be dredged through the mud. A 30-ton launch was obtained and fitted with an apparatus for lifting 18 buckets of mud, each bucket 5 cwt., or $4\frac{1}{2}$ tons of mud every hour.

The most difficult part of the enterprise, and the part which more especially called for inventive

talent of a high order, was the application of apparatus for lightening the draught. Captain Hotham got 60 butts (4 ft. 2 in. by 2 ft. 11 in.) from Montevideo, made them watertight, and lashed them in two tiers round the bottom. Screws of various kinds were also applied, at bow and stern, to lessen the weight. With reference to this application of screws Cooper Key tells rather an amusing story. Don Manuel Oribe, the besieging General, had paid more than one sympathising visit, and Captain Hotham, accompanied by several of his officers, rode out to the besieging camp to return them. After an interchange of civil speeches the besieging General offered to supply his guest with two cats (*gatos*). It was rather a strange gift, especially as it was made with some parade of a desire to be useful, but Captain Hotham felt bound to accept in the spirit it was offered, assuring General Oribe that he would be glad to have the pussies and would never part with them. The present never came. It was afterwards found that though *gato* means a cat, it also means a screw-jack for raising ponderous weights. As the *gatos* were only intended to be lent, and Captain Hotham had announced his intention of never parting with them, they were not sent.

Besides the screws an iron lighter was fixed at the ship's stern, and finally six camels 37 to 47 ft. long were secured, being shaped to fit the ship's side. For this 67 ft. of 3-in. pine plank

were obtained from the town, and 180 lb. of nails. Altogether 468 tons were applied to reduce the ship's draught. The cables were not considered strong enough by themselves, and purchases were applied to take off part of the strain.

At length, after five months of incessant labour, the anxious moment arrived for moving the ship. It was by the screws that she was started from her original bed. Steam was got up, purchases were hove on, and on September 26 the ship was moved 15 ft. Then there was some bad weather, but on October 13, when the strain was fairly brought on the purchases, the old *Gorgon* began to move in real earnest. She had gained 320 yards, by the 19th she had moved 800 more yards, and on November 1 she was afloat.

It was a great feat in seamanship ; and Cooper Key ascribes success to the very remarkable combination of qualities in the commander, " the successful designer of this noble and signal illustration of the pre-eminence of British perseverance and nautical skill." The most conspicuous of these qualities was Captain Hotham's just confidence in his own powers. This was combined with a lively zeal, great practical knowledge and experience, undaunted patience and perseverance, and the gift of considerable mental and bodily endurance.

These are just the qualities which are needed in an Arctic explorer ; and M^c^Clintock derived in-

calculable benefit from his service under such a man as Sir Charles Hotham. In after-life he often described Sir Charles as the most accomplished officer under whom he had ever served. Concerning the part which McClintock himself took in the great work of saving the *Gorgon*, we have the evidence of Captain Hotham in a letter to the young officer's mother. He wrote :

"The ship your son is serving in now lies aground in a situation which renders her removal difficult beyond measure. It is on these occasions that a captain forms his opinion as to the abilities and merits of his several officers ; and I can confidently assure you that none stand higher in my estimation than your son. He is without exception one of the steadiest, most zealous and excellent young men I ever served with, and is deserving of his promotion or any other favour the Admiralty might confer upon him."

Commodore Purvis, the Commander-in-Chief on the Brazilian station, placed a commission as an acting lieutenant at the disposal of Captain Hotham, who presented it to McClintock without hesitation. This was the first of three promotions, each given for special service, the last bringing him on the Captains' list, where no further selection is made and seniority prevails. But this first promotion to lieutenant was delayed so long as to place him at a disadvantage all through his career, as will be seen when his final retirement came. Sir Leopold did not come of a naval

family, and in his days as midshipman and mate early promotion was given by interest.

On April 12, 1845, M^c^Clintock was appointed as lieutenant to the *Frolic* (16-gun brig), commanded by Captain Cospatrick Baillie Hamilton. He joined her in the River Plate. She was bound to the Pacific station ; and on October 2, 1845, she arrived at Honolulu, where she found H.M.S. *Collingwood*, bearing the flag of Rear-Admiral Sir George Seymour, the Commander-in-Chief. The *Frolic* was again in company with the flagship at Mazatlan, on the west coast of Mexico, in June 1846. She had been for some time at Guaymas up the Gulf of California on special service.

This service was of a peculiar kind. The laws of Mexico prohibited the exportation of specie. But the merchants had no other means of paying for European goods but by transmitting home large amounts of the precious metal. So Her Majesty's ships of war on the Pacific station were allowed to smuggle specie on board. An intimation would be received that a train of mules, laden with silver, would arrive at the mouth of some river, or other secluded point on the coast, on a specified day and hour. A man-of-war's boat was then sent to receive the specie and bring it on board. It was sometimes in dollars, but more frequently silver jugs, basins, cups, chalices, or pattens. Very rarely the authorities got wind of it, when soldiers were sent down who opened fire

on the boat. But no harm was ever done. There was indeed a tradition on the station that a midshipman and boat's crew were once captured, and made to work as slaves in a silver mine. The merchants had to pay a large percentage as commission, and when two or three million dollars were shipped, this amounted to a considerable sum. By the Admiralty arrangement it was divided between the Admiral of the station, the captain of the ship, and Greenwich Hospital. The midshipman who ran the risk and did the work got nothing.

The *Frolic* was engaged on this service during the greater part of the year 1846, chiefly at Guaymas, a port some distance up the Gulf of California. There was very good deer-shooting in the scrub-woods near Guaymas, and M'Clintock was able to enjoy some excellent sport. Changes took place during the commission, and he brought the brig home as first lieutenant. When passing homeward through the Strait of Magellan, an English merchant vessel was found to have been burnt and sunk in the harbour of Punta Arenas. The *Frolic* was employed, for about three weeks, in raising the wreck out of the anchorage, landing her on the beach, and recovering from her specie to the value of £8,000 or £9,000. Her crew had disappeared long before. The *Frolic* returned to England and was paid off in June 1847.

These four years added largely to M'Clintock's knowledge and experience, including, as they did,

the famous recovery of the *Gorgon*, the raising of a wreck and landing it on the beach, and the work of a first lieutenant. His latent powers were called into play, his resource, and inventive talent, as well as his administrative ability.

After the *Frolic* was paid off, Lieutenant M^c^Clintock passed some months at home with his mother in Dublin. He then went to study on half pay at the Royal Naval College at Portsmouth. Early in 1848 Sir James Ross commissioned the *Enterprise* to lead an Arctic expedition in search of Sir John Franklin's ships. M^c^Clintock, like many other naval officers, was anxious to join the expedition. Fortunately he had a friend and old shipmate who was also a friend of Sir James Ross. Captain William Smyth, formerly a lieutenant in the *Samarang*, has already been mentioned as the second naval officer to descend the Amazon from the Andes to the Atlantic; he was Sir George Back's first lieutenant during the famous voyage of the *Terror*, and he was an accomplished artist. He recommended M^c^Clintock to Sir James Ross, who got him appointed second lieutenant of the *Enterprise* in February 1848. This was the turning-point in M^c^Clintock's life. It was his great opportunity and he seized it.

CHAPTER III

THE FRANKLIN EXPEDITION

WHEN Sir James Ross returned from his Antarctic Expedition in 1843, Sir John Barrow, the great promoter of polar research since 1818, was still Secretary to the Admiralty, and there were the two strong ships of Ross's expedition at the disposal of their Lordships for Arctic service.

The nominal object was the solution of the problem of a North-West Passage, as a connected sea between Baffin's Bay and Bering Strait was called. It was by this time perfectly understood that such a passage, if it existed, could never be of any commercial value. It was, therefore, merely a geographical problem. But, in the course of its solution, it would combine important service to other branches of science. The enterprise was, therefore, worthy of being undertaken as a service of national interest and importance. So thought Sir John Barrow, who carried with him the sympathy and support of the First Lord, the Earl of Haddington, and of an unusually enlightened Board of Admiralty.

At that time the idea of Arctic discovery was in

the air. It was discussed with great interest by young naval officers, and a feeling of enthusiasm was gaining ground. The history of the polar regions, of that vast undiscovered area so difficult of access, including millions of square miles, was studied. It comprised annals of surpassing interest and importance.

It is not alone that in that history we meet with examples of heroism and devotion which will entrance readers of voyages of discovery for all time. It is not alone that there are difficulties to be overcome and dangers to be encountered which call forth the best qualities of civilised men, and lessons to be learnt which form a training for work of the highest kind. These indeed are the main reasons for that deep interest which all that concerns the polar regions has received from our forefathers and ourselves. These aroused a desire to emulate the deeds of Arctic heroes in the breasts of many a young naval officer sixty-four years ago.

There were, however, some who took an even higher view. For those few *Arctic enterprise was a great but unequal conflict with the powers of nature in order better to understand the laws of nature.* The polar regions, they felt, embrace great scientific problems. They present fields of research in all departments of knowledge. They have, in the past, yielded vast wealth, and have been the sources of commercial prosperity to many communities. They may be so again. Their

history is a history of noble and persevering effort, extending over a thousand years.

Such thoughts as these were occupying the minds of naval officers at the time when Sir James Ross returned from the far south. Among others Commander Fitzjames wrote his views on the subject to his great friend at the Admiralty, John Barrow, second son of Sir John. Fitzjames was then at Bombay in command of the *Clio*.

James Fitzjames was among the most promising officers in the navy at that time. He had done excellent work in Chesney's Euphrates Expedition, and distinguished service in the China war, when he was in command of the rocket brigade at Nanking. Promoted to the rank of commander, Sir William Parker gave him the *Clio* brig, in which vessel he returned home after a year in the Persian Gulf. He came back full of Arctic aspirations, and his arrival was timed at the very moment when Sir John Barrow, who had the highest opinion of him, was planning an expedition. The Barrows took it for granted that Fitzjames would have the command. His friend Charlewood of the Euphrates Expedition was to have the second ship. Fitzjames also recommended Le Vesconte, his first lieutenant in the *Clio*; Fairholme, who had served in a Niger Expedition, Hodgson and Des Vœux, who had been with him in China, and several younger friends. Fitzjames was the man for the work. Strong, self-reliant, a perfect sailor, imaginative, enthusiastic, full of

sympathy for others, a born leader of men, he was the *beau idéal* of an Arctic commander. One of Admiral Percy's daughters, who knew him at the Cape on his way home, spoke of him as so full of life, with a strong sense of humour.

But it was not to be. The Lords of the Admiralty considered that old age was essential. So they offered the command to Sir James Ross. He declined on the ground that he was too old. He was forty-five. Lord Haddington then yielded to the importunities of an officer who was fourteen years older: Sir John Franklin, in his sixtieth year, was given command of the proposed expedition.

Fitzjames then made sure of the second ship. But his youth disqualified him. He was only thirty-three! Their Lordships offered the second ship to Captain Stokes, an old surveying officer, who also declined on the plea of age. It was accepted by an older man, and Crozier was gazetted as captain of the *Terror*. He certainly had much experience. He had served with Sir Edward Parry in three voyages, and had just returned from the Antarctic regions, where he had been second in command to Sir James Ross, also in the *Terror*.

Sir John Barrow, with little expectation after these disappointments that he would accept, then asked Fitzjames whether he would care to go with Sir John Franklin in the *Erebus* as commander. Fitzjames eagerly accepted. He had

never uttered a complaint. He at once conceived a great admiration, even affection, for Sir John, and they worked admirably together. The officers selected by Fitzjames were appointed, except Commerell,[1] Hall,[2] and Wynyard,[3] who were pronounced to be too young. Graham Gore, who had been with Sir George Back in the terrible voyage when the *Terror* wintered in the ice of Hudson's Bay, an excellent officer, became first lieutenant of the *Erebus*. Little was first of the *Terror*, the others being Irving and Hodgson. Besides Des Vœux, four young officers Hornby, Sargent, Crouch, and Thomas took the places of Fitzjames's friends who were considered too young.

The *Erebus* and *Terror* were two old bomb vessels, built for strength, of 370 and 340 tons respectively, and they were fitted with minute auxiliary screws and small engines and boilers. Fitzjames, in his humorous way, described their arrival alongside. "Our engine is down alongside. It came drawn by ten coal-black horses and weighs 15 tons." The ships had three years' provisions on board, unfortunately largely from a dishonest contractor named Goldner, and they filled up from a transport at the Whale Fish Islands. The instructions were to make the North-West Passage by working S.W. from Cape Walker

[1] The late Admiral Sir Edmund Commerell, V.C.

[2] Son of Captain Basil Hall. He died as a commander.

[3] A charming boy who was with Fitzjames in the *Clio*. He died of fever, serving in the Pacific on board the *Pandora* in 1848.

to Bering Strait ; but if Wellington Channel was found to be open, Sir John Franklin was at liberty to attempt a passage by going north. Fitzjames was anxious to be sent home overland by Siberia with the news, when the ships reached Petropaulowski in Kamschatka.

The two ships sailed from the Thames on May 19, 1845. Very happy and enthusiastic letters were sent home from Greenland. Sir John Franklin wrote on the very satisfactory character of the arrangements, on the excellence of the officers and his perfect reliance on them, and on the brightness of the prospect. Fitzjames wrote a long letter to his friend John Barrow, and a deeply interesting one to his sister, Mrs. Coningham. With the skill of a practised writer, but with a sympathy and humour which no practice could give, he described each of his messmates to the life by a few masterly touches, so that they become realities. Each description is a perfect little vignette in itself ; and he concludes with the assurance that there never was a happier mess in the service. With all this confidence in themselves and their comrades, and declarations of a fixed determination to conquer or die, 129 officers and men, the pick of the service, disappeared from mortal ken.

CHAPTER IV

PREVIOUS KNOWLEDGE OF THE GROUND TO BE SEARCHED

NO news of the missing ships! One year passed, and there was no need for misgiving. A second year passed, and few felt any anxiety. They would soon be heard of in the Pacific, it was hoped. Still there was one warning cry. It came from Savile Row, where a physician lived named Dr. King. He had been Sir George Back's companion when in 1834 he discovered the Great Fish River. He had a strong opinion. The ships, he maintained, were icebound off King William Land. In the next year the survivors would attempt a retreat by the Great Fish River. Succour must be sent at once to meet them, or they would all perish. If his advice had been taken some would have been saved. He wrote to the Colonial Office, he wrote to the Admiralty, he wrote again and again, he offered to go himself. No notice was taken of him. The opinion of Sir James Ross was asked, and he said that there was not the slightest cause for alarm, and that Sir John Franklin could easily make his provisions last for four years. The second year passed and nothing

was done. In the third year the ships were sure to return.

The third year came; the year when Dr. King declared that the survivors would be retreating to the Great Fish River hoping for succour. It was exactly what they were doing. But the Admiralty was advised that it was quite unnecessary to search in that direction. No help was sent. Still there was some anxiety. It was held that the ships would return in the autumn. An expedition, with provisions, was to be sent to meet them. After his expressions of opinion Sir James Ross could not well refuse the command when it was offered to him. He accepted it, and two strong barque-rigged sailing vessels of 530 and 538 tons were purchased, fitted out, and named the *Enterprise* and *Investigator*.

It is necessary to be thoroughly acquainted with the ground before we enter upon the great events in which McClintock was the chief actor. We must first know exactly how much of that ground had been discovered when the *Enterprise* and *Investigator* sailed in the spring of 1848.

When Baffin, on July 12, 1606, discovered the opening on the western side of the bay which bears his name, in 74° 20′ N., and called it after Sir James Lancaster of Basingstoke, who led the first English ships to the East Indies, his "hope of a passage began to be less every day than other." He thought it was a bay. When Captain John Ross was sent in command of an expedition in

1818, he thought so too. He was a fine old fellow: he had done good service in the Baltic under Saumarez; even his Arctic voyage was of use—it showed the way into the north water of Baffin's Bay, whereby the whalers were enriched. But the mistake of his life was to have agreed with Baffin and to have closed up Lancaster Sound.

His second in command did not agree with either Baffin or Ross. This rejoiced the heart of Sir John Barrow, who obtained for Edward Parry the command of the *Hecla* and *Griper* to make good his opinion. Parry took with him men distinguished in after-life, a future President of the Royal Society, a future President of the Royal Geographical Society, and James Ross himself, then a midshipman. It was a very open year as regards ice. The explorers sailed down the wide channel leading from Lancaster Sound. Parry named the bold cliffs on the north side North Devon. The land to the south he did not name, only christening two inlets after the Admiralty and the Navy Board. Then he came to a wide opening on the south side which he named Prince Regent's Inlet, and the land to the west North Somerset. He coasted along its northern shore. He saw an island on the north side which he named Cornwallis, after his first naval friend and patron. A wide opening, leading north, between North Devon and Cornwallis Islands was named Wellington Channel.

Parry had now made his way for 140 miles down a channel with a width of 40 miles, which is Lancaster Sound proper, from Baffin's Bay to Prince Regent's Inlet. Continuing westward, he gave the extension from North Somerset the name of the chief promoter of the voyage, Sir John Barrow, the Secretary of the Admiralty from 1818 to 1848—Barrow Strait. Unobstructed by ice Parry next sighted three quite small islands—Somerville, Brown, and Baker; and two larger, Griffith and Lowther; then two still smaller, Davy and Young. Far to the south land was seen above the horizon which was named Cape Walker, after the well-known Admiralty cartographer of those days. Still unobstructed, hopes were raised high as they sailed gaily westward. A channel was seen between Cornwallis Island and a larger island to the westward named Bathurst. West of Bathurst Island was that named Byam Martin, and here a landing was effected. All the islands from the entrance of Lancaster Sound to Byam Martin were merely seen from the ship, but at Byam Martin Island a party went on shore.

Not even yet obstructed by ice, the *Hecla* and *Griper* continued to sail on, and discovered Melville Island. They even reached what was believed to be its western extremity, but there they were stopped by the impenetrable ice of the great polar ocean. They went back a short distance and cut their way into Winter Harbour.

Parry had discovered a channel leading for 630 miles westward from Lancaster Sound, a vast extent of coast-line and something more of Melville Island, where he wintered. Here was an island 160 miles long by 115, broken by two deep gulfs—"Hecla and Griper Gulf" to the north and "Liddon's Gulf" to the west, composed of carboniferous sandstone, except the northern promontory, which is limestone. Coal has been found in several places. The island possesses a rich Arctic flora; and is frequented by musk oxen, reindeer, hares, ptarmigan, ducks. Parry devoted all his care and thought and all his energies to the preservation of the health of officers and men during what was the first Arctic winter in modern times. Like Captain Cook, his renown rests as much on his care of the men under his command as on his eminence as a navigator. From Melville Island he made out some distant land to the south which he named after Sir Joseph Banks. This first of Parry's voyages is the most memorable of all the Arctic voyages. Parry caused a record to be carved on a huge rock at Winter Harbour, and returned in the autumn of 1820.

The extensive archipelago discovered by Parry in 1819–20 was named by him the North Georgian Islands. They have since been more appropriately called the Parry Islands. It is very desirable in the interests of geography that the islands which should be embraced in this name as a distinct archipelago should be clearly defined. Those

PRINCE PATRICK I.
Markham I.
Emerald I
Vesey Hamilton I
MELVILLE I.
BYAM MARTIN
BATHURST I.
WELLINGTON CHAN
NORTH DEVON
McCLURE STRAIT
Dealy I.
Lowther I.
Beechey I.
Griffith I
BARROW STRAIT
MELVILLE SOUND
Russell
C. Walker
Garnier B.
LANCASTER SOUND
Leopold H.
PRINCE OF WALES ISLAND
FRANKLIN CHANNEL
NORTH SOMERSET
PRINCE REGENT INLET
BANKS ISLAND
McCLINTOCK CHANNEL
Bellot Strait
VICTORIA ISLAND
BOOTHIA
KING WILLIAM I.
77°
76°
75°
74°
73°
72°
71°
70°
69°
68°
125°
120°
115°
110°
105°
100°
90°
85°
80°
75°

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actually seen by Parry are North Devon,[1] North Somerset, Russell, Cornwallis, Bathurst, Byam Martin, Melville, and Banks ; and a dozen smaller islands—Leopold, Beechey, Griffith, Lowther, Young, Davy, Somerville, Brown, Garrett, Baker, and Dealy. Prince Patrick, Prince of Wales, and King William Islands, from their positions, clearly belong to the group, as well as the large island between King William and Banks Islands, which has had the misfortune of having no less than four names given to different parts of it. This is most confusing and much to be deprecated in the interests of geography. The first discoverer called it Victoria, another part was named Wollaston, another Prince Albert, finally a little bit of new coast has been named Haakon. The whole should be Victoria Island.

All these, except North Devon, form the Parry Islands. Another geographical division is formed by the large islands on the west side of Baffin's Bay and the channel leading from Smith Sound, namely the Baffin Group, North Devon, and Ellesmere Islands, with which should be included the islands discovered by Sverdrup. In this view Sir Leopold M'Clintock concurred.

In his third voyage Parry's object was to attempt the north-west passage by the great opening which he discovered in 1819, and named Prince Regent's Inlet. His ships were the *Hecla*

[1] The name was given by Parry, but North Devon was discovered by Baffin.

and *Fury*, but 1824 was an exceedingly unfavourable ice year. Parry could only reach Port Bowen, on the east side of the inlet, some parts of its coasts having previously been discovered by him in 1819. In the spring short sledge journeys were undertaken inland. Among the officers were Foster, a Copley Medallist of the Royal Society; James Ross, the future commander of the first, and Horatio Austin, of the second Franklin search expedition. Here too was Crozier, afterwards captain of the *Terror*. After getting out of the winter harbour in the spring of 1825, the *Fury* was driven by the ice on the shore of North Somerset. Her stores and provisions were landed on what has since been known as "Fury Beach."

There had been one other voyage. Captain John Ross was for years anxious to rehabilitate his fame as an explorer, to do something which would make up for his great mistake in the matter of Lancaster Sound. The Government would not employ him, but a wealthy distiller named Felix Booth befriended him, and enabled him to fit out a small vessel named the *Victory*, with an engine and paddles. His experienced nephew, James Ross, went with him. They succeeded in navigating Prince Regent's Inlet and reaching a harbour on a coast-line which was named Boothia, south of North Somerset. Boothia proved afterwards to be the northern extremity of the continent of America, separated by a narrow strait from North Somerset. The winter quarters of the *Victory*

were in a country inhabited by Eskimos. With some help from them, and following their methods, James Ross made several important sledge journeys. He crossed the Boothia Isthmus to the western side, and discovered the north magnetic pole in 1831. He also traversed the sea ice to a land to the west which was named King William's Land. He explored its northern side as far as Cape Victory, reporting exceptionally heavy ice pressing upon the shore. Unable to extricate the ship, she was abandoned after three winters. The Rosses led their people northwards in boats, and passed a fourth winter at Fury Beach, living on the provisions that were landed there in 1825. Finally the explorers were picked up by a whaler in Lancaster Sound, and great was the sensation when they reached England. Parliament voted the payment of wages and of all debts, and at last Captain John Ross won his Arctic knighthood.

Captain Back, accompanied by Dr. King, had undertaken an expedition by land in search of the Rosses, in the course of which he discovered the Great Fish River, and followed its course to its mouth.

The coasts of Arctic America and the south coast of King William Island had been discovered by Franklin, Richardson, Dease, and Simpson, and Wollaston Island had been sighted.

This is all that was known when Franklin sailed; all that was known when Ross followed in search, but with Ross it was nearly all personal

knowledge. He had served in Parry's first, second, third, and fourth voyages, and with his uncle. But he had little to guide him in a search. Franklin was instructed to make his way from Cape Walker to Bering Strait. Cape Walker was a speck of land sighted on the horizon by Parry in 1819. Their Lordships of the Admiralty were ignorant whether the intervening space was impenetrable ice or land. In point of fact it was both. Franklin was given the alternative of going up Wellington Channel. This was an opening between North Devon and Cornwallis Islands which was passed by Parry in 1819 and appeared then to be clear of ice. Sir James Ross, however, departed in the full expectation that he would meet the *Erebus* and *Terror* coming out of Lancaster Sound.

Many of the names given by Sir Edward Parry in his first voyage will occur so often in the course of the search narratives that it has been thought desirable to supply an alphabetical list of them in an appendix, with positions and persons after whom they were named.

PARRY ISLAND
JONES SOUND
SABINE
MELVILLE ISLAND
BATHURST I.
CORNWALLIS
WELLINGTON CHANNEL
NORTH DEVON
BARROW STRAIT
C. Walker
BANKS
N. SOMERSET
PR. REGENT INLET
LANCASTER SOUND
BAFFIN BAY
COCKBURN ISLAND
BOOTHIA
GULF of BOOTHIA
WOLLASTON I.
VICTORIA ISLAND
Dolphin & Union Str.
Dease Strait
FOX CHANNEL
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CHAPTER V

SIR JAMES ROSS'S EXPEDITION—1848–1849

THE great Arctic navigators of old had strong incitements to brave the dangers of ice-encumbered seas. John Davis, Baffin, and Hudson were moved by a patriotic desire to advance the commercial interests of their country. Parry, Ross, Beechey, and Sabine found their incitement in the love of science. The noblest motive of all was that which actuated M^c^Clintock and his colleagues, the cause of humanity. Most of them were interested in scientific research, and some of them did good work for science, but their leading motive was the relief of their missing countrymen. It aroused their enthusiasm as no other motive could possibly do, and gave a tinge of chivalrous romance to their enterprise.

M^c^Clintock was always calm to outward seeming, and inclined to be reticent, but his persistent and untiring efforts during a long course of years proved that the sacred fire burnt with more than passing ardour in his breast.

He joined the *Enterprise* at Woolwich in

February, where the two ships were being fitted out. Sir James Ross was then aged forty-eight. He was an officer of unequalled polar experience extending over thirty years, devoted to scientific research, and an able navigator. He was a short, stout, square-built man, with an aquiline nose and very piercing black eyes. But he was somewhat shaken by his Antarctic work, and lacked those qualities in a commander which are needed to keep his followers in high spirits and good health. His intimacy with Crozier, his old Antarctic second in command, who lived with him during the time that the Franklin expedition was fitting out, induced the belief that no man living knew the ideas and intentions of Franklin and Crozier so well as Sir James.

M'Clintock's first impressions of Sir James Ross, given in a letter written while the expedition was being fitted out, are interesting:

"I have only seen Sir James Ross three times. He seems a very clever, quick, penetrating old bird, very mild in appearance and rather flowery in his style. He is handsome still, although about fifty-three or fifty-four [this was a mistake: he was forty-eight], and has most piercing black eyes. He will be, by at least ten years, the oldest person in the expedition. What will Mrs. Henry [his mother] think of Lady Ross? She has so little fear for her husband's safety that she regrets her son is not old enough to go out with him in the *Enterprise*. She is indeed a Spartan mother."

Sir James Ross formed a great liking for M'Clin-

tock, who found in him in later years a most kind friend, ever ready with encouragement or with assistance out of his great store of Arctic and scientific knowledge.

The first lieutenant of the *Enterprise* was Robert M'Clure, who had served with Sir George Back in the *Terror*, a man of iron nerve, a fine dashing fellow well up to his work, and a taut hand on duty. When the *Terror* was commissioned, Sir Charles Adam, the First Sea Lord, sent for him and exclaimed, as he entered the room, "M'Clure, you are just the man we want. There is an Arctic Expedition fitting out, will you join?" He could not make up his mind at once, and went to the waiting-room to think it over. The old porter asked him what was on his mind. M'Clure told him. "Well," said he, "I saw Nelson sitting on that very chair, thinking what he would do, and he took what they offered him. Do you do the same." M'Clure took the old porter's advice, went back and volunteered. M'Clure gained his first Arctic experience amidst the most appalling dangers, the *Terror* wintering in the pack, and returning in a sinking state. This got M'Clure his promotion in November 1837 at the age of thirty years. Since then he had done excellent service on the Canadian lakes and in the West Indies.

The third lieutenant was Willy Browne, a born artist. Son of the Harbour Master at Dublin, he

had passed his early youth in the merchant service. It was at the Fiji Islands that his extraordinary talent gained for him an appointment as master's assistant in the *Sulphur*, and he afterwards became a mate. Six years of service under that notorious Tartar, Sir Edward Belcher, had turned his hair grey, though he was four years younger than M^c^Clintock. But his skill and taste as an artist were undiminished, and he was a great acquisition.

Mr. Biggs, the purser, had been the very first to volunteer from his affection for Fitzjames, under whom he had served in the *Clio*, and from whom he had received much kindness. Fitzjames took him as a companion to Bagdad, Kerbela, and the ruins of Babylon. Stephen Court, the second master, was a first-rate officer; and old Abernethy, the ice-master and a great character, was Sir James's right-hand man in the ice; but M^c^Clintock's greatest friend in the ship, to whom he was warmly attached, was the assistant surgeon, Dr. Mathias, a native of Dublin.

The *Investigator*, Ross's second ship, was commanded by Captain Bird, who had served with Parry in two Arctic expeditions, and was first lieutenant of the *Erebus* in the Antarctic Expedition. He was a good steady officer well seasoned to polar work, and in the full confidence of his chief. His three lieutenants, Ross, Robinson, and Barnard, were efficient trustworthy

officers. The assistant surgeon Adams was a naturalist of exceptional ability.[1]

M'Clintock was busily engaged at Woolwich in the work of fitting out from February to the end of April. One day he found time to spend an hour in Westminster Abbey among the monuments of the departed great. In a letter to his sister Emma he wrote, in fun, that he had chosen a berth for himself. Just sixty years afterwards, close to the very place he named, his greatest achievement received commemoration.

In the middle of May the expedition left the Thames, and passed through the Pentland Firth on the 18th. On June 1 Sir James Ross gave his first dinner-party, being the anniversary of his discovery of the north magnetic pole. On the 7th Cape Farewell was sighted; and it is very interesting to read M'Clintock's description of the first polar ice he ever saw. It was his introduction

[1] *Enterprise*, 530 tons.

Capt., Sir James Ross.
1st Lieut., M'Clure.
2nd Lieut., M'Clintock.
3rd Lieut., W. Browne.
Surgeon, Robertson.
Assist.-Surgeon, Mathias.
Purser, Biggs.
2nd Master, Court.
Master's Assist., Shellabeer.
Master's Assist., Grunsell.
Midshipman, Cheyne.
Clerk, Whitehouse.
Carpenter, Hall.

Investigator, 536 tons.

Capt., Bird.
1st Lieut., Ross.
2nd Lieut., Robinson.
3rd Lieut., Barnard.
Surgeon, Anderson.
Assist.-Surgeon, Adams.
Master, Tatham.
Clerk-in-charge, Gilpin.
Mate, L. Moore.
Mate, Cresswell.
2nd Master, Allard.
Master's Assist., Tracy.
Carpenter, Dean.
Boatswain, Osborne.

to the great work of his life. It was a long stream of loose sailing ice, and the ships broke through it.

"It was an extremely interesting and beautiful sight [he wrote]. The upper surface of the ice resembled half-melting snow. The sides were scooped out into tiny clefts and caverns, mimicking such as we often see on perpendicular rocky coasts, both being formed by the ceaseless agitation of the sea. These icy projections and indentations presented every shade of colouring from a deep sea-green to a pale bluish white. They also had a semi-transparent appearance, which contrasted with the dazzling snow-white surface. When the sun shone brightly and the sea rolled the pieces about, we could see that many lumps had been fretted into fantastic shapes by the action of the waves. Stumps of trees, towers, arches, animals, huge mushrooms, were all represented by these rapidly decaying fragments."

On June 12, 1848, M^c^Clintock saw his first icebergs and was charmed with the sight:

"They were of respectable size, prettily shaped, the sea dashing against their perpendicular sides as against a rock. In one of them the sea had worn two deep caves. The many beautiful shades which were presented by the constantly changing views of the chasms and channels worn in their sides by the descent of the melting snow called forth our warmest admiration. Indeed, they afforded us a truly solemn and imposing spectacle of nature's workmanship, such as seldom fails to lead one's thoughts up to the great Architect of all things."

The Arctic circle was crossed on the 20th, and two days afterwards the Whale Fish Islands were

reached. Here M'Clintock made his first acquaintance with the typical Arctic birds and mammals, and had an opportunity of seeing the Eskimos in their homes and in their *kayaks*, recording their appearance, dress, methods of hunting and fishing, and their customs and beliefs. The Eskimo girls danced merrily with the bluejackets, and seemed never to tire. After a stay of ten days the ships proceeded on their way northwards, touching at the Danish settlement of Upernivik, where M'Clintock first made the acquaintance of Dr. Rink, the learned Danish Inspector of Greenland. They also visited the Woman Islands to procure a supply of looms and their eggs. But the pack was found to be pressing closely on the land ice and there was a long detention. On July 5 the ships were off Sanderson's Hope, but it was August 20 before they reached the open water at the northern end of Baffin's Bay, and the 29th before they were sailing up Lancaster Sound.

On September 1 M'Clintock landed at Cape York, the eastern portal of Prince Regent's Inlet, to build a cairn and deposit a record. It is a very low point jutting out a few hundred yards from the straight coast-line, which consists of precipitous cliffs about nine hundred feet high. Here M'Clintock found a small heap of stones which had been made by Sir James Ross in 1825, when he reached this point from Parry's winter quarters at Port Bowen.

Immediately afterwards the progress of the

expedition was stopped by closely packed floes across Barrow Strait, and across Prince Regent's Inlet. On the 4th it was blowing with heavy falls of snow, and ice all round. There was nothing for it but to take refuge in Port Leopold, at the north-east end of North Somerset, which was reached on September 11.

North Somerset is an island 180 miles long and 100 in width where its northern coast faces Barrow Strait, just opposite to the entrance of Wellington Channel. From Leopold Island to Fury Beach is 85 miles along the eastern coast. The coast then sweeps round for 40 miles to the westward forming Creswell Bay. This trend narrows the distance from the east to the west shores of North Somerset to 12 miles. Cape Garry is the southern point of Creswell Bay, and thence the coast trends south to Brentford Bay. The strait which separates North Somerset from the American Continent was not then discovered. The great mass of North Somerset is composed of Silurian limestone, probably resting on a group of sandstones and conglomerates, which overlie the granite, of which there is an outcrop in the strait and on the west coast. The interior is a dreary plateau covered with snow, the flora is scanty even for the Arctic regions, consequently mammals and land birds were equally scarce.

Nothing on board the ships made up for the forbidding character of the outside. Neither Ross nor Bird was the man for organising a

cheerful Arctic winter. In his youth it was different with James Ross. Thirty years before, in Parry's first winter at Melville Island, Ross was a slight festive youth with rosy cheeks, and generally took the lady's parts in the Winter Harbour theatricals and at Igloolik. But thirty years of strenuous work had told upon him ; and his mind was occupied by magnetic problems relating to inclination, dip, and intensity. His was not a nature to put himself in the position of younger men. "There was no fun during the winter" was the report on their return. There was, however, some attempt at extra good cheer on Christmas Day and on the New Year. The discomfort on board was great. The officers did not mess together. There were five gun-room officers, and the rest were told off to a miserable midshipmen's berth, a wretched place. All one side was coated with ice, and there was constant dripping from overhead. It could only be inhabited for hasty meals, followed by an equally hasty retreat from its gloomy horrors. The only amusement supplied for the mess was a school from six to eight in the evenings. Mr. Whitehead, the clerk, taught those who could not read or write ; while a very youthful master's assistant [1] named Grunsell instructed the more ambitious aspirants in navigation. This lad was the son of a naval surgeon and had been educated at Greenwich School under Dr. Riddell. Having

[1] Second-class volunteer.

lost both his parents and having no near relations, he was brought up by Mr. Enderby, the Antarctic promoter, who got him into the navy. When he was only fourteen he was sent on board the *Enterprise* as a master's assistant. Young Grunsell was a fine boy and had been thoroughly well grounded himself. He succeeded in turning out at least three navigators among the men, as the result of his winter's instruction.

M^c^Clintock had the resource of diligent reading, chiefly Arctic voyages and works on geology and botany. His messmates, especially Dr. Mathias, kept themselves employed in similar ways. But for the men the winter was a time of dullness and discomfort. Two actually died of despondency.

On February 27 there was a race up the N.E. Bluff, a steep ascent of 800 ft., to see the returning sun, which was won by Mr. Court with the aid of a scraper in each hand. The sun's upper line was only 7′ above the horizon, being really far below, its appearance due to the height and to refraction, the temperature being −49. It was a cheering event. Poor Dr. Mathias was one of those who climbed the height, and a few days afterwards he was seized with frequently recurring spitting of blood, gradually losing strength. He died on June 15, and M^c^Clintock felt his loss deeply.

"In him [he wrote] I have lost such an excellent friend as I can hardly hope to meet with again. He possessed a very rare combination of ability

of the highest order, with sound practical sense and knowledge of the world. He was well read on many subjects, and he was so full of good nature that he was at all times ready to assist, explain, or impart knowledge to those who sought his aid. As a companion he was most animated and agreeable, and he was a general favourite on board."

The illness of so good a messmate cast a shadow over the little company, for it was seen that there was no hope. Hard work and constant occupation helped to keep off despondency. The canal for getting the ships out of winter quarters had to be aligned and strewn over with cinders, to aid in thawing the ice; and a very large depôt had to be established under the lofty cliffs of Whaler Point with a house, before the time for sledge travelling began.

As spring approached it became necessary to decide upon what course should be taken. No trace of the missing expedition had been found. Sir James Ross resolved upon the examination of the west side of North Somerset by a sledge journey. Another sledge party was to go to Fury Beach, and ascertain whether it had been visited, which was quite possible. Two others were to cross Barrow Strait and Prince Regent's Inlet with the object of depositing records. The route taken by Sir James Ross has been criticised. Ill-natured critics suggested that he only wanted to re-visit his north magnetic pole. Others thought he had received some hint from Sir John Franklin. Both

ideas are out of the question. The truth is that no other route was possible for him, from his base at Port Leopold.

Sir James had a practical knowledge of the very little that had ever been done before in Arctic sledge travelling. The Hudson's Bay Company's people used toboggans, but the ice and snow in the two regions are under such different conditions that their experience did not apply. Sir James had, however, derived many useful hints from the Eskimos of Boothia during his journeys which resulted in the discovery of the north magnetic pole and of the north coast of King William Island. He made all the arrangements himself; and prepared to attempt a far more extended sledge journey than had ever been achieved before in the Arctic regions. There were to be two sledges of six men each, one commanded by Sir James himself, and the other by M'Clintock. The scheme for a daily ration per man was 1 lb. of preserved meat or salt pork, 1 lb. of biscuit, 1 oz. of cocoa and 1 oz. of sugar, lime juice, and 1 gill of rum.

This was a great event in M'Clintock's life. His experience with Sir James Ross was to show him that sledge travelling might be made a great agency in polar discovery. Hitherto such discovery had been confined largely to what could be seen from a ship, and ceased as soon as the ship was stopped. The genius of M'Clintock made a complete revolution. The discovered land would

now be explored, not merely sighted. Discovery would commence and not end where the ship is stopped. He was to learn his first practical lesson with Sir James Ross. He had previously been making experiments with spirit lamps and kettles, and had them constructed on a plan of his own.

At 7.30 p.m. on May 15 the sledge parties, consisting of twenty-four men under Captain Bird, Lieutenant Barnard, Creswell, and Dr. Robertson, started, accompanied by a strong fatigue party for five days. By this arrangement the two sledges would be able to be absent for a total period of forty days. The travelling was at night, and the halts during the daytime. The tents were 9 ft. by 6, just room for seven persons; but the rest of the officers was broken for taking sights and magnetic observations, while the men slept. The system was to awake the people at 5 p.m., thaw the snow, and make chocolate in a tin kettle placed over a spirit lamp. The allowance of spirits of wine to make chocolate for seven people was a quarter of a pint. At a very low temperature it just warmed the chocolate. The breakfast over, the sleeping bags were rolled up, the tent struck, and sledge packed ready for a start soon after 6 a.m. At midnight there was a halt for luncheon, consisting of a mouthful of biscuit and frozen meat, some snow water, and half a gill of rum. The final halt was at about 5 a.m. when the tent was pitched, snow melted, and the other half-gill of rum served out, with lime juice. Supper consisted of 1 lb. of

meat and 1 lb. of biscuit. This was found to be quite insufficient. There were salt pork and preserved meat on alternate days. But it was found that the 8-lb. cannisters of preserved meat contained only 7 lb., and the salt pork included bone, and when boiled it weighed barely ½ lb.

Sir James Ross usually walked along the shore some distance in advance, while M'Clintock led the sledges, selecting the smoothest and most direct routes over the ice. On May 20 the fatigue party filled up the sledges, left a depôt and returned to the ships. This was at Garnier Bay.

The point between the N.E. Bluff and Garnier Bay had been given the name of Cape M'Clintock. After receiving three cheers from their colleagues, the two sledge parties journeyed on towards Cape Rennell, a bold headland rising abruptly to 700 ft. Farther on the ice was very heavy with piled up hummocks, and in places they were obliged to bring on one sledge at a time. On May 26 they reached the Cape Bunny of Parry, which proved to be an island. Hitherto the coast was the same as had been sighted by Parry in 1819 at a distance, but never landed upon. All beyond Cape Bunny was new discovery, the course being south.

The farthest point was reached on June 6 at a place called Four River Bay. Sir James walked on some miles farther to 72° 38′ N., whence he could see land for at least fifty miles, naming the most distant headland Cape Bird. It is in

fact the southern extreme of North Somerset. They little knew how near they were to a solution of the Franklin mystery, nearer than any one else until McClintock cleared up the mystery ten years afterwards. A cairn was erected and a record deposited stating the positions of the ships and of depôts established for the use of Franklin's party, and that it was Sir James's intention to push forward as far as Melville Island, search the north coasts of Barrow Strait, and return before a second winter set in.

When Sir Allen Young visited these seas in the *Pandora* in 1875, he found and copied Ross's record and bore testimony to the excellence of the descriptions given by Ross and McClintock. He recognised each headland, and at once identified the deep gorge mentioned by them as dividing the limestone from the red sandstone.

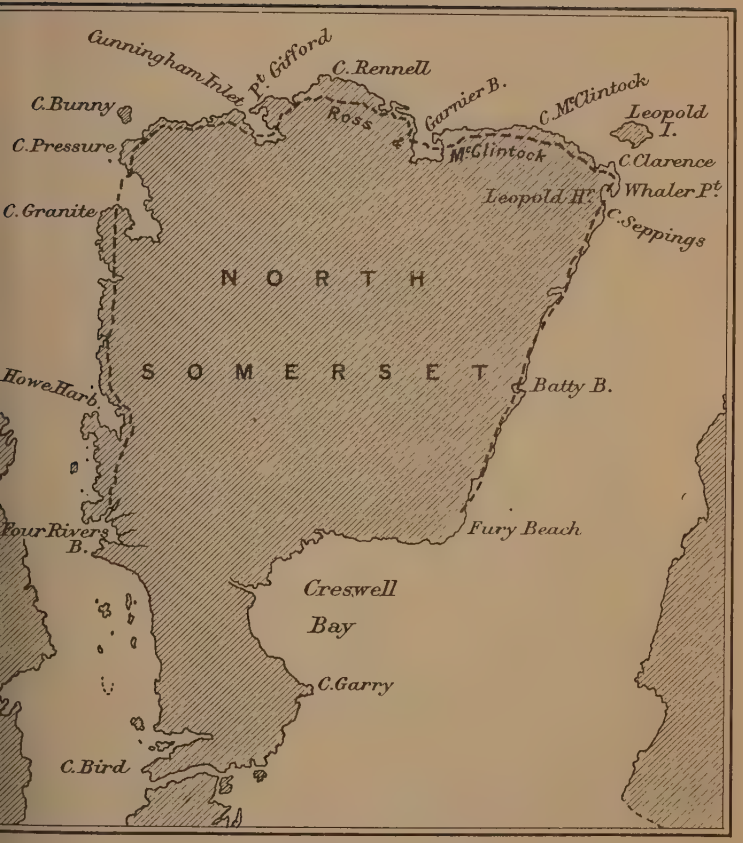
The sledge travellers reached the ships again on June 23. The strength of all the men was much impaired, mainly from insufficient food, and four broke down altogether, one of them having to be carried on the sledge. Only on three occasions could they be given a repast of stewed birds, half a bird for each man ;[1] and extreme hunger was the prevailing complaint. On their return to the ship all the men had to be put on the sick list for an average of ten days, and Sir James Ross

[1] Sir James and McClintock, during the thirty-nine days, shot 25 birds—8 ptarmigan, 9 duck, 4 gulls, 3 dovekeys, and a red-throated diver.

had to take to his bed; for the return journey had been a period of intense labour, constant exposure, and insufficient food. M'Clintock alone returned well. They were absent thirty-nine days and went over five hundred miles. The discovery of new land was interesting from a geographical point of view, and a valuable collection of fossils was made, chiefly bivalves and trilobites in the Silurian limestone. Vestiges of old encampments of Eskimo wanderers were found along the line of march.

This was by far the greatest Arctic sledge journey that had ever been made up to that time. There were some mistakes in the equipment and scale of diet. It has been seen that the allowance of meat was quite inadequate, while that of rum was too large. Another defect was that there was no tobacco in the scale of diet, only what the men had when they started. The poor fellows were distressed at its absence. So Sir James Ross, on the return journey, picked up the quids that had been thrown away as being used up, and served them out to the men again. It was sorry comfort. Improvements were needed in the fuel and the cooking arrangements. The weight to be dragged per man was too great, and the whole scheme called for complete revision.

M'Clintock noted everything down to the minutest detail and, with the eye of genius, he saw the numerous improvements that might be made and the great future that sledge travelling



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might have in the work of polar exploration, and which it actually attained under his auspices and direction.

Shorter journeys had been made to Fury Beach, across Prince Regent's Inlet, and across Barrow Strait to deposit notices of the positions of the ships and of depôts, but no traces of the missing expedition were found.

As the summer advanced scurvy made its appearance. Dr. Robertson nearly died of it, his life being saved by timely supplies of fresh food in the form of stewed birds. Several men were also attacked, and a dozen were on the sick list out of a complement of sixty-four. In the end of June both Sir James Ross and M'Clure were on the sick list and confined to their beds; so that the whole charge devolved on M'Clintock, including the preparations for the navigable season and cutting the canal. The ice was from $3\frac{1}{2}$ to $5\frac{1}{2}$ ft. thick, and it took ten men to work each saw. By July 16 M'Clintock had completed the canal to connect with that of the *Investigator*, and the combined ships' companies continued it to the harbour's mouth, each saw cutting 60 yards in ten hours. On the 28th all the boats had been cut out of the ice and hoisted up, and the ship was moved down the canal. Every effort was made to obtain supplies of fresh food for the sick, and during the summer 2,300 birds were shot, amounting to about 30 lb. of fresh meat per man. On August 17 M'Clure came out of the sick list and resumed his

duties, McClintock having been in sole charge during two months and in a most critical time. The ships were not fairly out of their winter quarters until August 29.

Sir James Ross had intended to search the shores of Barrow Strait as far as Melville Island during the navigable season of 1849, but it was not to be. The very day after leaving Port Leopold the ships were closely beset by the ice, indeed severely nipped for some time, and drifted helplessly down Lancaster Sound. After a fortnight all hope of being released was abandoned, and a second winter in the moving pack was anticipated. During this dismal time there was another death from scurvy. But on September 24, when the ships had been carried into Baffin's Bay, there was a sudden change. The ice cracked in all directions, lanes were formed, and open water was reached. For twenty-four days the ships had been as firmly fixed in the ice as in a vice; and all hope of escape that summer had been given up. The change was sudden and rejoiced the hearts of all on board. But though there was no further hindrance to a return home, the heavy sick list was a source of anxiety and regret. There were still five or six cases of scurvy, for one there being little hope of recovery. On November 5 Sir James Ross landed at Scarborough, and on the 26th the ships were paid off at Woolwich. They had confidently hoped to find Sir John Franklin and his people

safely returned to England, and were all bitterly disappointed to find that there were still no tidings.

In the spring of 1849 the *North Star* frigate had been sent out with provisions, to enable Sir James Ross to continue the search. She was commanded by Mr. Saunders, who had been master of the *Terror* with Sir George Back, and was officered by second masters. The *North Star* was unable to extricate herself from the Melville Bay ice, and had to winter in Wolstenholme Sound on the coast of Greenland. In the next season (1850) Mr. Saunders landed a depôt of provisions at Admiralty Inlet in Lancaster Sound, and returned to England.

The results of Sir James Ross's expedition were the discovery of 150 miles of the west coast of North Somerset, the certainty that Fury Beach had not been visited by Franklin, the publication by Ackerman of Willy Browne's admirable water-colour sketches, and above all the experience acquired by M'Clintock.

Sir James Ross died on April 3, 1861. Captain Bird became a retired admiral and lived to a great age. He died on December 3, 1881, in his eighty-third year. He was two years older than Sir James Ross.

CHAPTER VI

ONWARD TO THE RESCUE

THE return of Sir James Ross without any news caused amazement and consternation. There was a strong feeling throughout the nation that the Government should spare no effort to rescue our missing countrymen or to ascertain their fate. The *Enterprise* and *Investigator* were almost immediately re-commissioned under the command of Captain Collinson and Commander M'Clure, to proceed by way of Bering Strait, with the *Plover* as a depôt ship, to be stationed near Cape Barrow. A larger expedition was to proceed by Baffin's Bay and Lancaster Sound. Two strong bluff-bowed barque-rigged vessels of 410 and 430 tons were bought into the service, to be strengthened and fitted out in the Thames by Messrs. Green & Wigram. They were named the *Resolute* and *Assistance*. Both had heads of polar bears for figure-heads, the *Resolute*[1] having a red, and the *Assistance*[2] a white streak. Two sharp-bowed screw steamers were also bought into the service as tenders of

[1] Built at Shields. Formerly called the *Ptarmigan*.

[2] Built of teak in India by a son of Sir R. Sepping. Formerly called the *Baboo*.

the two sailing vessels, and named the *Pioneer*[1] and *Intrepid*.[2] In April 1850 all four vessels were commissioned, and assembled at Woolwich.

The command of this expedition was given to Captain Horatio T. Austin. He was the son of an official in Chatham Dockyard who had formerly served under Lord Nelson as a lieutenant. He had been first lieutenant in the *Terror* under Sir Edward Parry in his third voyage, when he had seen much ice work during the long detention in Baffin's Bay, and had learnt the needs and requirements of an Arctic winter under an excellent master. When the use of steam first came into the navy, Austin wisely gave close attention to it, and he did good service in command of a steamer during the operations on the coast of Syria in 1840. He was in command of the *Blenheim* line-of-battle ship and in charge of the steam reserve at Portsmouth when called away for Arctic service, being fifty years of age. He chose the *Resolute* for his ship; and the command of the *Assistance* was given to Captain Erasmus Ommanney, a good sailor with some experience in Davis Strait. Lieutenant Sherard Osborn had the *Pioneer*, and Lieutenant J. Bertie Cator the *Intrepid*.

The Admiralty also bought two brigs, which were named the *Lady Franklin*[3] and *Sophia*,[4]

[1] Formerly the *Eider* of Southampton, in the Baltic trade, carrying bullocks.

[2] The *Free Trade* of Southampton, in the Mediterranean trade.

[3] 250 tons—5 officers and 20 men.

[4] 140 tons—4 officers and 16 men.

to form an independent expedition under a whaling captain named Penny. They were fitted out at Aberdeen. Lady Franklin, by what seemed to be intuition of the right direction, finding that Prince Regent's Inlet had not been included in the plan of search, fitted out a small schooner at her own expense to fill up the omission, giving the command to Commander Forsyth. He was to proceed down Prince Regent's Inlet to Brentford Bay, cross North Somerset in its narrowest part, and continue the search southward from Sir James Ross's farthest. This was precisely the right direction. Old Sir John Ross also, declaring that he had given a promise to Sir John Franklin, prepared to sail in a little vessel called the *Felix*, but very inadequately supplied. Finally Mr. Grinnell, a wealthy and generous merchant of New York, sent out two small schooners, the *Advance* and *Rescue*, to aid in the search. Altogether no less than ten vessels were preparing to sail for Lancaster Sound. Feeling indeed ran high, and the sympathy of the whole civilised world was aroused. It was very late in the day—three years indeed too late—still there was the hope that some might be saved, and enthusiasm was aroused to the highest pitch.

No one felt more strongly than M'Clintock. When the *Enterprise* was paid off, he went home to Dublin. His mind was absorbed in the great work that was before him. His time was taken up in studying details respecting sledge travelling.

As soon as the expedition was decided upon M^c^Clintock was appointed first lieutenant of the *Assistance* and at once joined her at Woolwich. The sailing ships were admirably adapted for securing the health and comfort of the men during an Arctic winter, but not so well adapted as their tenders for ice navigation. Their rig was calculated for easy management by a small number of men. The crow's-nest at the fore-topmost head consisted of wooden hoops covered with painted canvas, which gave room for two men, instead of the casks used by whalers. Attention also was given to improvement in the ice boats and ice gear. The interior fittings of the ships, to secure health and comfort in the winter, were due to Captain Austin's experience and genius for organisation. A Sylvester stove was fixed on the keelson in the main hold, and warm air was sent from it right round the ship on the living deck, while bathing and all washing were to be done there, so that the living deck would be kept dry and wholesome. The thorough and efficient way in which these plans and arrangements were carried out on board the *Assistance* was due to M^c^Clintock; but the initial organisation belonged to Captain Austin, as M^c^Clintock fully recognised.

Austin was a short stout man, and at the age of fifty he was too old for the work of sledge travelling. But there never was so good an organiser, as regards the work and the internal economy of the

ships. His was not a personality that would be easily forgotten. His white hair was rather inclined to curl, he had eyes full of vivacity and life, rather a long upper lip, and florid complexion. He was not without faults, perhaps a little inclined to fuss. But he was kind-hearted and full of sympathy for those under his command. He examined into the minutest details, and the very remarkable success of his expedition as regards the health of the men was entirely owing to his powers of organisation. He wrote out his system as regards the time when navigation was possible, as regards winter arrangements, and as regards sledge equipment. These order books were called "views in detail." They were in the form of questions and answers, often amusing and very quaint, at the same time well thought out and thoroughly practical.

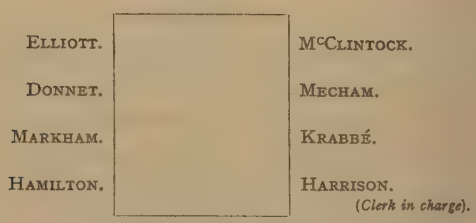
No two men could be more different than Austin and McClintock. Yet the younger officer always appreciated the special qualities of his chief, and the leader of the expedition wisely relied on the experience and rare gifts of McClintock. They were the only two officers in the expedition who had previously served in the Arctic regions. Captain Ommanney had been in the *Cove* when Sir James Ross was sent to Davis Strait for the relief of belated whaling vessels in 1835. He wisely left almost everything to his first lieutenant, and their relations with each other were pleasant and satisfactory throughout the expedition. Captain

Austin handed over to M'Clintock the selection of all materials for the equipment of the travelling parties, so that he was able to prepare everything on his own plans. He was resolved to extend his next journey from 500 to 700 or 800 miles. His first impression of Captain Austin was that his chief was an energetic, talkative man who generally said exactly what he meant. He rather admired the way in which Captain Austin could "blarney" in beautiful style, when he wanted to get rid of an inventor of some useless machine which he did not mean to patronise. He was besieged by such people with their plans for ploughing or blowing up the ice, or for cruising about in balloons. One inventor would overcome all difficulties by the use of kites, another had a way of asphyxiating bears when in a close embrace. They were all most amusing.

M'Clintock became intimate with Lady Franklin at this time, and was impressed by her remarkable intelligence and by her gentle and very prepossessing manner. She seemed to devote her whole thought to this one subject, and her object seemed to be to become personally acquainted with those engaged in the search, and to infuse into them some of her own enthusiasm. In conversing with her, she did not make M'Clintock feel that it was a painful subject, as she was too full of hope, and he felt that she was much to be admired for the conspicuous and noble part she had so long sustained.

M'Clintock had ten messmates on board the

Assistance. Elliott, the navigator, was a very efficient officer and a genial messmate. He had been master of the *Agincourt* during the China War, and took her up the Yang-tsze. Frederick Mecham, the third lieutenant, was tall and handsome, a good officer, a thorough seaman, an artist, and well informed. He was full of enthusiasm for the work, the very best of messmates, and likely to follow closely in McClintock's footsteps. The junior officers were Richard Vesey Hamilton, Clements Markham, and Henry P. Bance. The second master was Krabbé, a Cornishman of Danish extraction, a fellow of infinite humour. Dr. Donnet, the surgeon, was a Roman Catholic, a high-minded, warm-hearted messmate, well read and accomplished. Dr. Charles Ede, the assistant surgeon, was a many-sided man, and good at everything he chose to do. He sat



PLAN OF THE MESS-TABLE OF THE *ASSISTANCE*.

at the head of the table, and all retained their places in the gun-room throughout the commission, those who had cabins in the gun-room being

opposite to their cabins. Harrison was the clerk in charge, and Richards the captain's clerk.

Mr. Osborn, the boatswain, a good seaman, had been captain of the main top in the *Fisgard* in the Pacific. The carpenter, Mr. Dean, was the prince of carpenters and the first lieutenant's right-hand man. The crew consisted of sixty men, including three old whaling experts as ice quartermasters—Collins, McDougall, and Wilson, known as the "Old Snow Bunting." But the greatest character was George Murray, an ice quartermaster of the *Intrepid*, a handsome old man of varied experiences and with more than ordinary literary talent.

Captain Austin brought several officers who had been with him in the *Blenheim*. The first lieutenant of the *Resolute* was Bob Aldrich, an enthusiast on more than one subject, not the least soured by having had to serve for twelve years as a mate before he was promoted. Mrs. Bagot has described him in her reminiscences of her father's (Admiral Percy) commission on the Cape station, when he was wild on the subject of suppressing the slave trade on the coast of Africa, caring nothing for his promotion, only intent on hunting down slavers. He was rather tall, with hard weather-beaten features and a kindly expression. He sang a good song and was a right good fellow.

"He had a fine voice," writes Mrs. Bagot, "and used to sing all the old sea-songs. He did not care for promotion nor for money, only for the abolition

of slavery. He used to bore my father very much, but we delighted in him." Robert Calder Allen, the master of the *Resolute*, was an officer with many sterling qualities who had been master of the *Dido* with Harry Keppel. He came with Captain Austin from the *Blenheim*.

The surgeon of the *Resolute* was Abraham Rose Bradford, reputed to have been the best shot in the Mediterranean during the operations on the coast of Syria in 1840 ; a tall, large man with grey hair and florid complexion and decidedly handsome. He had volunteered for the Franklin expedition, and Fitzjames thus wrote of him :

"Bradford is just the man for the work, being active and energetic, a capital shot and a pleasant fellow. But he is no 'ologist. He can't stuff birds, give long names to slimy things, or put moss in blotting-paper. However, if I have a choice, he is the man."

The *Resolute* was well off in artists. Willy Browne, M^c^Clintock's old messmate in the *Enterprise*, went again as second lieutenant. Young W. W. May afterwards attained to eminence as a water-colour painter, and M^c^Dougall, the second master, was excellent both in figures and landscapes.

Sherard Osborn, the lieutenant commanding the *Pioneer*, was one of the greatest ornaments of the expedition. Full of enthusiasm as of knowledge, he was in warm sympathy with his men. Osborn did not perhaps make sufficient allowance for a man so differently constituted as Captain

Austin. They did not hit it off. But their collisions struck off sparks which threw light around. The *Intrepid* was tender to the *Assistance*, and her commander, Lieutenant John Bertie Cator, had seen much service in China, and was a thorough seaman. He was not clever, but efficient and trustworthy, fond of a long yarn, and most good-natured.

At this time McClintock's age was thirty and a half. He had a short, slender, but wiry and muscular frame well fitted for the endurance of long-continued exertion and hardships. Quick in his movements, as in his decisions, he was always quiet and perfectly calm, seeing everything done himself without noise or fuss. While all his orders were carried out promptly and everything was ready and in its place, McClintock included in his idea of duty consideration and kindness to every one on board. He had seen three years' provisions stowed on board,[1] and on April 25 the

[1] Rum, 1,455 gallons.
Biscuit, 21,896 lb.
Salt beef, 13,984 lb.
Salt pork, 18,560 lb.
Flour, 56,200 lb.
Suet, 1,792 lb.
Currants, 350 lb.
Peas, 77 bushels.
Chocolate, 4,148 lb.
Tea, 1,148 lb.
Sugar, 13,500 lb.
Oatmeal, 12 bushels.
Vinegar, 41 gallons
Tobacco, 3,467 lb.
Soap, 2,365 lb.
Lime-juice, 4,136 lb.
Scotch barley, 1,280 lb.
Rice, 300 lb.
Pickles, 4,000 lb.
Preserved meats, 24,710 lb.
,, soups, 7,060 lb.
,, vegetables, 9,020 lb.
,, potatoes, 4,928 lb.
,, apples, 2,352 lb.
Pepper, 200 lb.
Mustard, 368 lb.
Salt, 280 lb.
Dried yeast, 40 lb.
Pemmican, 1,539 lb.

little squadron went down to Greenhithe to swing the compasses. Here the ships were visited by Sir Edward Parry, the greatest of Arctic navigators, now near the close of his well-spent, active life.

During the voyage across the Atlantic hopes ran high. At least the assurance was felt that retreating parties would be found and rescued. How could 120 officers and men be altogether lost? There must have been great suffering and many deaths, but surely it was not too late to bring succour to some survivors. Nothing else was thought of. McClintock was among the most hopeful. "Success in our present expedition," he wrote, "is the summit of all my waking dreams." Mr. W. Crozier had sent him a letter for his uncle, Captain Crozier of the *Terror*. "I shall take that letter when I go travelling," he added, "in case I should be the fortunate one to find our missing countrymen."

The sight of Cape Farewell and the first ice caused great excitement. Then opened out the whole of the East Bygd of the Norsemen, from Hvitserke, as they called Cape Farewell, to the Cape Desolation of John Davis, 135 miles, almost

Chocolate paste, 250 lb.	Wood, 7 cords.
Preserved milk, 100 pints.	Candles, 3,000 lb.
Bacon sides.	Sperm oil, 400 gallons.
Coals, 72 tons.	Linseed oil, 100 gallons.
Lignum vitæ, 3,000 lb.	

Besides private stores of officers, medicines, and medical comforts all stowed in 519 casks, jars, and 7,608 preserved meat-tins. The tanks held 51 tons, of which 20 tons provisions and 31 water. The consumption of water per day was one-third of a ton.

all taken in at a glance, with the numerous islands and opening fjords, tightly locked up by the thick line of ice brought round by the East Greenland current meeting the Gulf Stream. Tremendous precipices were seen in the distance, rising out of the sea, with black mountains towering above them, streaked with snow, and throwing their peaks up into the blue sky. Here and there, between the peaks, a glimpse was caught of the glistening inland ice.

But onward to the rescue! Icebergs rise up around the ships, beautiful exceedingly. Constant adverse winds prevented the squadron from reaching the Whale Fish Islands until June 15. For a week the ships were here filling up with stores from the transport, sailing again on the 23rd, and passing Upernivik on the 25th. Then on again to battle, for many days, with the ice of Melville Bay, and to come out victorious. Still onward to the rescue!

McClintock received a charming letter from Lady Franklin dated April 30, 1850. Their intimate friendship commenced from this time. She wrote: "I look to your travelling parties on the ice as our main ground of hope; and I am sure that everything which human ingenuity can devise will be thought of and practised by you. I have entire confidence in you, and I only make it my request that you will all remember that your lives are excessively precious to me, and that even the restoration of him who is most dear to me would be dearly purchased at the expense of those who nobly risk all to save him and his devoted companions."

CHAPTER VII

A BATTLE WITH THE ICE

In order to have a clear idea of the difficulties a sailing vessel, such as that of which M^c^Clintock was first lieutenant, had to encounter in passing northwards up Baffin's Bay, a general knowledge of the hydrography of the region is necessary.

The length of Baffin's Bay and Davis Strait from Smith Sound to Cape Walsingham is 400 miles, the width at Cape Walsingham 180, at Pond's Bay 320, at Cape York, 145, and at Whale Sound 100 miles. The bay is filled with ice floes and many hundreds of icebergs, most of which are drifting south into the Atlantic, with greater or less rapidity according to the season and the winds. In the winter the young ice forms over the open water and continues its growth until it attains a thickness of 6 ft. in May, but it is often broken up by the older floes of a previous year. In the spring the southerly movement is more marked, and in the summer the ice is much increased in quantity by contributions from the three sounds at the north end, those of Sir Thomas Smith, Sir James Lancaster, and Alderman Jones. This southerly drift always leaves open navigable

BAFFIN'S BAY.

80°
70°
60°
50°
Smith Sd.
C. Parry
Cary Is.
Wolstenholm Sd.
Jones Sd.
C. Dudley Digges
C. York
MELVILLE BAY
NORTH WATER
75°
C. Warrender
Lancaster Sound
MIDDLE PACK
Devil's Thumb
C. Shackleton
Woman Is.
Upernivik
Ponds B.
Sanderson's Hope
Waigat
70°
Disco
Whale Fish Is.
DAVIS STRAIT
C. Walsingham
65°
Godthaab
E. Greenland Ice
Frederikshaab
Julianehaab
C. Farewell
60°
50°

water in the north of Baffin's Bay from June to September, which is known as the " North Water." It is not to be supposed that the North Water is always clear of ice, for this is very far from being the case. There are streams of ice, many icebergs, and moving floes. Still, it is sailing ice, and the name of the " North Water " is justifiable.

The vast body of ice drifting south down Baffin's Bay and Davis Strait is called the " Middle Pack." It receives a further addition to its volume, consisting of heavy broken ice, in about 64° N., where it is joined by the current which, after rounding Cape Farewell laden with ice, has been turned up the coast of Greenland by the Gulf Stream, and is again diverted south, on its junction with the main pack drifting down Davis Strait.

After the voyage of Sir John Ross in 1818, who may be said to have rediscovered Baffin's Bay, and to have given its true significance to William Baffin's memorable voyage in 1616, the whaling ships followed in his wake in search of whales in the " North Water." It was necessary for them to face or evade the " Middle Pack " ; and it was found that there was great variation in the seasons. A direct attack on the drifting " Middle Pack " was called the " Middle Passage." A course round the fixed land ice of Melville Bay was called the " North Passage."

In taking the " Middle Pack " there was considerable risk, in a sailing vessel, of being beset and seriously delayed, or of being drifted away south

altogether. In 1819 Parry passed through it and reached the "North Water" with scarcely any detention. But in 1824 he was detained by the ice for fifty-four days! The safer and surer way was to keep along the coast of Greenland. Melville Bay commences at Cape Shackleton, just beyond the northern termination of Danish Greenland, thence trends north for 120 miles, and then east for 110 miles to Cape York; between latitudes 73° 45′ and 75° 55′. The distance round it is 300 and across it 190 miles. Nearly the whole of this curving coast is occupied by glaciers coming down to the sea, with *nunataks* or ice-surrounded headlands at long intervals, and striking from their rarity. Cape Shackleton—known to the whalers as "Horse's Head"—is a noble promontory rising 1,400 ft. above the sea and composed of granite full of garnets. Next to the north is Wilcox Head. Then there is a remarkable dark pinnacle known as the Devil's Thumb, then Melville Monument and Cape Walker, behind which the lofty domes of the inland ice are visible. At Cape Walker the coast begins to sweep round to the west, until Bushnan Island and Cape York are reached. Melville Bay is lined with a great width of fixed land ice, thicker and stronger, because older, than the floes of the Middle Pack. The safer and surer way of reaching the "North Water" was for a ship to stick to the land ice in Melville Bay until Cape York was reached, where the North Water begins. The floes drift past in the offing. A

change of wind, however, may drive them against the land ice, when the ship would be beset ; or bring them together with violence, when she would be crushed to pieces unless she had time to escape the nip by cutting a dock in the land ice. But there was not always time. In 1819 as many as fourteen sailing ships were smashed to pieces between the drifting floes and the land ice, like so many walnuts. In 1821 there were eleven destroyed, and in 1822 the number lost amounted to seven. But the greatest disaster was in 1830, when nineteen ships were destroyed entailing a loss to the owners of £142,600. The risk was quite worth running, for between 1772 and 1852 the port of Hull alone sent out 194 ships, and, in spite of eighty being destroyed by the ice, the profits amounted to £6,847,580. The introduction of steam caused a revolution in ice navigation, and reduced its danger to a minimum.

Captain Austin's expedition was the first to use steam power on any adequate scale with screw propellers ; but the steamers were only to be used as tenders to tow and otherwise assist the two sailing ships.

It was on July 1, 1850, that the ships of Captain Austin's expedition reached the edge of the Melville Bay ice. There they found the whole whaling fleet waiting for a chance to proceed, and Penny's brigs a short distance inside, closely beset. Captain Penny had taken on board, in Greenland, a dog sledge and team of dogs with that most

excellent of interpreters and dog drivers, Carl Petersen, to manage them.

There was a halt. Advantage was taken of it to send boats to one of the splendid perpendicular cliffs of the Vrouw Islands, where thousands upon thousands of looms were breeding. Several hundreds were shot, and soon the main and mizen riggings of the ships were lined with their bodies. No opportunity was ever missed of procuring fresh food for the men. The floes remained closely pressed against the land ice. It appeared to be such an unfavourable year that the whaling fleet gave up all hope of reaching the North Water that season and went south to Davis Strait.

It was here that the *Assistance* first used her ice anchors, and to M^c^Clintock's dismay he found that they were liable to lose their hold and jump out when any sudden strain came upon them. It was calm when the ship was first secured to a low iceberg in this way, and in honour of the event the officers had a little jollification consisting of rum punch. But during the night a fresh breeze sprang up, and out jumped the anchors. The ship was adrift. "Hands make sail" was the pipe, while the old *Assistance* threaded her way through a labyrinth of icebergs, like a scared wild duck near its nest. The captain got the sails loosed, reefed, and set, and, after beating about all night, he succeeded in securing the ship in the morning watch. M^c^Clintock was fully determined to re-

model the anchors and that Her Majesty's ship should go no more roving, without permission.

But there could be no turning back for the expedition. Still onwards to the rescue! A narrow lane opened and became wider, the ships working their way between the moving floes and the land ice. Then the value of McClintock's experience and excellent qualities for such work was seen. Every operation had to be carried out with method and system, yet with great rapidity. It was an exceedingly anxious and exciting time in Melville Bay, extending over forty-five days.

On July 7 the ice floes in the offing crashed in upon the land ice, and it became necessary to cut a dock. Triangles were raised, and the ice saws suspended from them, heavily weighted at the lower end, and worked by several "bell ropes," amidst songs and cheering. The ice was cut into triangular pieces and pushed out with ice poles, and as soon as there was room for the ship she was hauled in. The operation was managed with method and order, but with great celerity, and only just in time. For the *Assistance* was no sooner safe in the dock than the floes came against the land ice, and there was tremendous pressure at the dock head. She shared her dock with the old *True Love* of Hull, the last of the whaling fleet to abandon the attempt to reach the North Water that year. The operation only occupied little more than three hours. The tenders took six, and the *Resolute* seven hours, but the *Assistance* had

the help of old Captain Parker and the crew of the *True Love*. Next day the ice slackened, and the ship was hauled out of dock. Officers and men began tracking her along a lane of water as horses track barges in a canal. Each had a tracking belt called a "rue-raddy,"[1] passed over one shoulder and fastened to the towing line by a penny hitched round it. All put their strength to it to the tune of "Heave round Rodneys"[2] with a rousing chorus. This tracking was repeated many and many a time during the forty-five days of detention in Melville Bay.

The ships were for several days off the very remarkable peak known as the "Devil's Thumb," from its resemblance to a huge black thumb pointing upwards out of the surrounding snow. "With the single exception of 'Nine Pin Rock,' which Marryat describes so well in his novel of 'Frank Mildmay,'" wrote M'Clintock, "I have never seen anything so remarkable, nor have I heard of anything that could be compared to it except Peter Botte at the Mauritius." There were grand icebergs in all directions, and the refraction often raised up fairy-like scenes of exceeding loveliness. Appearances like temples, towers, bridges, and cathedrals of white marble rose along the horizon, with the tints of the midnight sun behind them. In the hours that should have been

[1] Chorus of a song used in rather a rough game, very popular in those days on the forecastles of men-of-war.

[2] The *Rodney*, under Hyde Parker, was the smartest ship in the service until the *Collingwood* was commissioned.

those of night there was a strange silence away from the ships—a stillness as if all nature were asleep in the bright incessant daylight. Suddenly the quiet would be broken by the loud report of a calving berg. In these days bears were chased, narwhals were watched for in the water holes, and shooting parties were sent after rotches.

For the first lieutenant it was a time of incessant watchfulness. Not even the smallest chance of making progress was neglected. On July 12 the ice suddenly closed in. The ship was made fast to the land floe and the rudder was unshipped, and soon there was no water to be seen. The ship was severely nipped, being raised 3 ft.

"The straining and cracking of the ship's timbers was not a pleasant sound, but [wrote McClintock] when I saw that the floes were firmly set against each other, ahead and astern of the ship, and that she had risen to the pressure, I felt quite satisfied of our safety. The young people seemed to enjoy the excitement of the scene without appearing to understand the danger, and were only anxious to know whether this was really a good nip. With the tenders the pressure was more severe. A little more and they must both have been destroyed. Shortly before midnight the ice slacked, and allowed the ship to settle down to her usual draft of water."

The squadron remained motionless until the 17th, when the ice again slackened, and the floe in which the tenders were enclosed drifted to the southward. A large party was organised

to assist in extricating them. By sawing the ice a little space was gained for one of them to use steam, and then by charging repeatedly at full speed she gradually separated the floes, and both got out.

For some days there had been a strong water sky towards Cape York. Blasting operations were commenced under the superintendence of Lieutenant Mecham. A hole was made through the ice with an iron bar, the charge was lowered down in a soda-water bottle with a Bickford's fuse passing through the cork. It was placed a foot or two below the under-surface of the ice, so that the explosions might cause cracks and rents rather than holes. The hole was then well tamped with ice. Some execution was done in this way, and by August 9 the much-longed-for "North Water" was in sight from the crow's-nest.

A floe 200 yards in width barred the way. The tenders ran full steam at it, and each time broke away half their lengths. Blasting operations were continued, and many volunteers were ready to jump on the floating pieces with ice poles and guide them out of the way. The whole long battle with the floes had been a scene of tremendous, but methodical and disciplined, excitement. At length the ships were forced through and entered the "North Water" near Cape York.

Here Lady Franklin's little schooner, the *Prince Albert*, came up, under Commander Forsyth. She

CAPTAIN AUSTIN'S EXPEDITION OFF CAPE YORK

p. 88]

was less than 100 tons, and had been a Cowes pilot boat, the property of Mr. White, the ship-builder. Her orders were most judicious, as has already been shown, and if they had been carried out the fate of Franklin would then and there have been solved. Mr. Parker Snow announced himself as second mate, surgeon, purser, and factotum of the *Prince Albert*. He was a visionary enthusiast, but his protests were of no avail when Forsyth resolved to return home without doing anything. Old Sir John Ross also put in an appearance at Cape York in the schooner *Felix*, with a small decked boat called the *Mary* in tow. He had with him Commander Phillips, who had served in the Antarctic Expedition, and the old ice-master, Abernethy, with a crew of seventeen men.

Cape York marks the commencement of another region, one of the most interesting within the Arctic Circle, not only from the grandeur of its scenery, but also because it is the abode of one of the most completely isolated races of men in the world. Bounded on the south by the glaciers of Melville Bay, and on the north by the Humboldt Glacier, it forms a broad peninsula with 300 miles of coast-line, bisected near the middle by the waters of Whale Sound. At its southern end the sun is absent for 103 days, and at its northern end for 123 days during the winter.

From Cape York, a bold promontory well known to all navigators of Baffin's Bay, the coast trends

W.N.W. to Cape Dudley Digges, so named by old Baffin in 1616. This is the coast which received from Sir John Ross in 1819 the name of the "Crimson Cliffs of Beverley," and it is true that in the early summer the masses of snow have a pinkish hue, caused by the presence of minute vegetable substances. Beyond Cape Dudley Digges the great Petowak Glacier comes down to the sea, and forms the coast for a distance of seven miles. At its western end a line of cliffs commences which ends with Cape Atholl, at a distance of 56 miles from Cape York. At the back of Cape Atholl, which is the southern termination of Wolstenholme Sound, there is a table-land 1,000 ft. high, with small tarns and streams in summer, and grassy ravines leading to it, the haunts of hares and reindeer. Wolstenholme Sound, so named by Baffin in 1616, is a deep bay with a northern arm called Granville Bay. On the south side of the Sound, in a snug little creek, the *North Star* wintered in 1849–50. There are three islands at the entrance of Wolstenholme Sound. Saunders Island, the largest, is flat-topped with steep sides, and is composed of stratified rocks. Wolstenholme Island is smaller, and of gneiss, and Dalrymple Rock is a conical mass, the haunt of myriads of birds. At the north side of Wolstenholme Sound a strip of low foreshore extends along the foot of the cliffs for 20 miles, cut by three inlets ending in glaciers. One of these was named Booth Sound by Sir

John Ross in 1818. The foreshore ends at Cape Parry, a magnificent cliff 1,200 ft. high, forming the southern entrance to Whale Sound. Several of these cliffs are the breeding-places of looms, dovekeys, and kittiwakes. But the special peculiarity of the coast from Cape York to Cape Parry is that it is the favourite home of myriads and myriads of little auks or rotches. The small black-and-white birds are here in dense clouds in the air, on the cliffs, and in the water. They use their wings for moving under water as well as for flying in the air.

The country between Smith Sound and Cape York is inhabited by a most interesting branch of the Eskimo race, who have no mixture of foreign blood, and whose tradition is that they came from the north, the land of the *umingmak*, or musk ox. They were first discovered by Sir John Ross in 1818, who gave them the rather inappropriate name of "Arctic Highlanders." They came to the edge of the ice near Cape York to meet him, with their dogs and sledges. They came to nearly the same place when H.M.S. *Assistance* rounded Cape York in August 1850. These Arctic Highlanders were stout-built little men, thick-set and muscular, with round chubby faces, oblique set eyes, black and very bright, and straight black hair. Their hands and feet are small and very thick. With marvellous endurance they are courageous, ready to close with a bear, and to enter into a conflict with a

walrus on weak and treacherous ice. Without bows and arrows, without *kayaks* (canoes), and without wood, they still secure abundance of food with their bone spears and darts. In summer they catch the little auks with nets. In that season they live in sealskin tents, while stone huts called *iglus* form their winter abodes.

One of those who came to the edge of the ice to communicate with the *Assistance* was a lad of about sixteen, named Kalahierua. He was asked whether he would come on board to stay. Without a moment's hesitation he did come on board, with the evident intention of staying. He submitted philosophically to being well scrubbed with soap and warm water, having his hair cut, and to a pilot cloth suit being substituted for his sealskin jumper and hood, and bearskin breeches. One of the most remarkable points in the intellectual development of the Arctic Highlanders is their wonderful talent for topography. When Kalahierua was asked to make a map of his country, he took a pencil and delineated the coastline with astonishing accuracy, making marks to indicate islands and bird-frequented cliffs, and leaving spaces for glaciers reaching the sea. He also marked the places where there were *iglus* for winter stations, mentioning the name of each.[1] The most northern part of his map was then

[1] *Amoritok* (Etah); *Pikierlu, Ekaluh, Pitorak, Natsilik,* in Whale Sound; *Umenak,* in Wolstenholme Sound; *Ahipa, Imnagen,* Cape York.

unknown, but it afterwards proved to be quite accurate. Kalahierua was christened Erasmus York, after the captain and the cape. He remained on board for the rest of the commission. He had come to stay. On the ship's return to England, Captain Ommanney sent him to St. Augustine's School at Canterbury. After his education was completed he went to Newfoundland, where he died of bronchitis in 1856.

Off this coast a story was obtained from Adam Beck, Sir John Ross's Eskimo interpreter, that two ships had been wrecked there some years before, but that the people were all dead. The *Resolute* and *Pioneer* proceeded to Pond's Bay on the west coast, where there are Eskimo, to find out whether there was any news. The *Assistance* and *Intrepid* were, after investigating this report, to proceed up Lancaster Sound. The story proved to be a misunderstanding of Adam Beck, and the *Assistance* with her tender proceeded westward across the "North Water." Onward to the rescue!

CHAPTER VIII

LANCASTER SOUND TO WINTER QUARTERS

IN entering the portals of Lancaster Sound a second time, M^c^Clintock came as a practised ice navigator who had twice done battle with and overcome the formidable obstacles to progress which have to be encountered in Melville Bay. He was nearing the point whence his second great achievement in sledge travelling was to commence, and, like the rest of the squadron, his thoughts were turned to the hope of rescuing at least some survivors of the Franklin expedition.

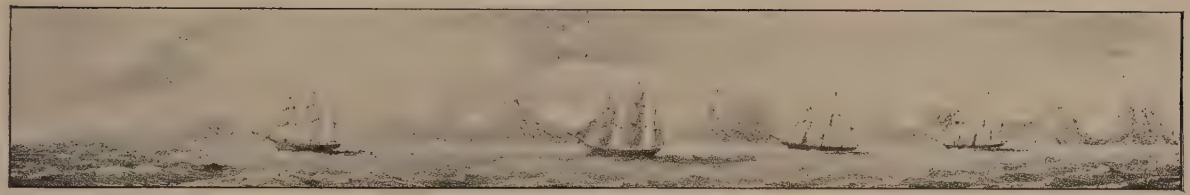
These portals of Lancaster Sound are very grand. The lofty cliffs of North Devon rise from a talus sloping between them and the shore. They are majestic in their dark sombre tints, cut by the action of frost and thaw into a long series of buttresses, and capped by the spotless white of the inland ice. Passing a harbour near Cape Warrender, some appearances on a little promontory induced the captain to go on shore with two officers to examine them. As the boat returned there was a lowering sky, and the sea was getting up. In another hour it was blowing a stiff gale with thick weather. The *Assistance*, under close-

reefed topsails, drifted rapidly to leeward, rolling her lee boats into the water. The chief anxiety was whether there was ice to leeward, and whether the gale would last long enough to drive the ship down upon it, in which case the heavy sea which was running would effect her destruction in very few minutes. On the next day (August 20) the gale moderated, but there was a very dangerous sea still running. As the wind continued to moderate more sail was made, and the ship passed between Leopold Island and the mainland of North Somerset. On the 23rd the wind had gone down, and the sea was smooth. Captain Ommanney went on board the *Intrepid*, and proceeded to examine Cape Riley, which, with Beechey Island, forms an excellent harbour.

The Cape Riley cliff rises from the sea with a talus of fallen rocks and stones at its base. The sea was smooth, with a few pieces of ice floating about. But strange things were reported on the shore. Were they traces of our missing countrymen? In a moment every glass was concentrated on Cape Riley. Excitement ran high. The captain had gone on shore, with several officers, and an important discovery was made. There were numerous remains of a camping party either detached from ships for shooting or for scientific purposes, or retreating. Among the relics there was a long staff with a crosspiece at the end, secured with spun yarn, and four bent pieces of cask hoop fastened to it. This had

apparently been used with a net for collecting specimens. The general opinion was that this camp at Cape Riley was for shooting or collecting purposes, and that the winter quarters of Sir John Franklin's expedition were in the near vicinity. Some maintained that it was a retreating party trying to make its way to Pond's Bay, where there are Eskimos and frequently whaling ships. McClintock never argued. It was known, however, that his opinion was in favour of a thorough search of Beechey Island. But the captain saw open water before him, and there was a strong impression that tidings would be found on Cape Hotham, the western portal of Wellington Channel. So he determined to push onwards, leaving the discovery of the first winter quarters of Sir John Franklin to the vessels in his rear, the *Resolute* and *Pioneer*, and Penny's brigs. This momentous discovery, with all the interesting details connected with it, has been best described in Sherard Osborn's "Stray Leaves from an Arctic Journal." It was a crushing disappointment that no record of any kind could be found; no clue whatever to indicate the direction a search should take. It may be looked upon as certain that a record was left. The cause of its disappearance will never be known. Several things may have happened. Some glimmer of light might have been derived from the actual position of the winter quarters. They were merely at the threshold of the work. There was the possibility that Franklin encoun-

UNION BAY, BEECHEY ISLAND
From "The Illustrated Arctic News"



CAPTAIN AUSTIN'S EXPEDITION

tered as unfavourable a year as Sir James Ross, and could get no farther than Beechey Island, just as Ross could get no farther than Port Leopold. But there was another equally likely possibility. Seeing that Wellington Channel was open, Franklin, as authorised by his instructions, might have tried that route, and, finding it impassable, he might have returned. Then the wintering at Beechey Island would be accounted for, with the intention of trying a route to the channel along the American Continent in the next navigable season. This actually was the case. But in all the conversations and arguments, and there were many, the true solution never occurred to any one.

Meanwhile the *Assistance* sailed away from Franklin's winter quarters, and went up Wellington Channel as far as Cape Bowden, where a great school of seals, coming down from the north, rose with their heads and necks high in the air to gaze on the strange appearance, then plunging into the sea and again rising for another look. Bears were prowling on the drifting floes, but for a day or two there was sailing ice. Then the *Assistance* was once more closely beset, as in Melville Bay, off Barlow Inlet, on the east coast of Cornwallis Island. It was a time for chasing bears, searching Barlow Inlet for traces, and incessant watchfulness. A lemming (*Mus Hudsonicus*) was caught, and lived for many days on the gun-room table. Soon the ship could move again, but there were large floes drifting down Barrow Strait. The

Assistance rounded Cape Hotham, the south-east point of Cornwallis Island, which Parry well described as like two boats turned bottom up. It was destined to be a landmark to the squadron for many a long month to come. The ship was again stopped within 150 yards of a low gravelly promontory to the west of Cape Hotham, which received the appropriate name of Dungeness. Here the ice was piled up in heavy masses to a height of 20 ft.

At eight o'clock in the morning of September 6 the tide was setting rapidly to the eastward, carrying away closely packed floe pieces of various magnitudes with it. These had worn away a projecting point of the land ice, which had hitherto protected the ship. A heavy floe struck her. The crashing noise was occasioned by the ice, but it sounded to those who were down below as if the ship's side had been crushed like an eggshell. Instantly all hands were on deck, some half-dressed, all but the carpenter, who coolly proceeded to sound the well. The ship sustained severe pressure, and was listed over to port, forced astern, and raised $3\frac{1}{2}$ ft. out of the water. The stream chain cable had been attached to the kedge anchor, which was set in the ice. But the fluke snapped off and the rest of the anchor was hurled into the air. The shank was then bedded upright into the ice, and the chain secured to it. This, with four large hawsers, held the ship. The disadvantage of a bluff bow

was here experienced, for every floe struck violently against it, while the ice merely rubbed past the sharp bows of the *Intrepid*. Next day a strong northerly wind drove the ice off shore.

On the 7th the *Intrepid* discovered excellent winter quarters in a bay on the south coast of Cornwallis Island, which received the name of "Assistance Harbour."

The two vessels proceeded westward until they were stopped by an immense field of ice, which extended from Griffith Island to Cape Walker, entirely precluding further progress. On the 10th the *Resolute* and *Pioneer* joined company, making fast to the ice, followed by the two little American schooners, and Penny's brigs were in sight. Captain Ommanney proceeded in the *Intrepid* towards Cape Walker, but was again stopped by solid ice. September was advancing, and the young ice was forming rapidly on the surface of the sea. The season was at an end. The American vessels parted company to return home, as they were not provided for a winter. Penny's brig and the *Felix*, with old Sir John Ross, found shelter in Assistance Harbour. Captain Austin's squadron turned the eastern point of Griffith Island fighting through the young ice, intending also to make for the same harbour. But it was no use, and the *Assistance* had to make fast to the old ice at a distance of about half a mile from the shore of Griffith Island, and the same distance inshore from the *Resolute*, in 30 fathoms.

Thus the squadron had to winter in the open pack, and from this point the great combined search was to start. It is, therefore, a memorable Arctic locality. The distance between Griffith and Cornwallis Islands is 12 miles, and the former island was the place for walks and for making collections. It is a good example of the Arctic Silurian limestone country, being 10 miles long by 6 broad. The south-east point is a noble headland, where looms and dovekeys breed in the summer. Near its base there is a tremendous landfall of enormous angular rocks piled on each other, torn from the heights by the power of frost and thaw. The northern side of the island is a succession of lofty cliffs broken by ravines, with a talus and a beach covered with boulders. The ravines present grand and imposing scenery, with beetling cliffs rising out of the steep slopes of snow, and views of distant Cornwallis Island, with Cape Hotham marvellously refracted. On the southern side of Griffith Island the ground slopes more gently down to the hummocks lining the shore. The whole island is peculiarly rich in fossil remains. The slabs on the beach are covered with the many-jointed stalks of encrinites. In the ravines and on the southern slopes there are, among other fossils, corals, madrepores, great numbers of trilobites, two species of orthoceras, and beautiful specimens of *Cromus arcticus*. These "sermons in stones" tell us of a warm ocean once occupying the Parry Archipelago. Griffith Island is the

summer haunt of foxes, hares, and ptarmigan. The death of such animals enriches the scanty vegetation, for generally where there is a tuft of herbage, small bones will be found amongst or near it. Although in the Arctic regions the flora of the sandstone is much richer than that of the limestone lands, yet Griffith Island can boast of a very beautiful though scanty vegetation. The purple saxifrage is abundant in summer, and an anchor formed of its flowers was planted on the grave of the only man who died during the expedition. The yellow poppy (*Papaver nudicaule*), the tufted saxifrage, the ground willow, the *Draba integrifolia*, and a few other flowering plants thrive, and supply food for the hares and ptarmigan. M^c^Clintock's long residence under the shadow of the Griffith Island cliffs, and the interest he took in the Arctic flora and in the collection of fossils, justify this brief description of the neighbourhood of his second winter quarters. The island was named by Parry after Admiral Griffith, who was Troubridge's first lieutenant in the *Culloden* at the battle of St. Vincent.

CHAPTER IX

WINTER QUARTERS AND SLEDGE EQUIPMENT

1850–51

IN preparing for his second Arctic winter, the main thought was to maintain the health of the people and to keep up their spirits, so that the machinery for the great search-work in the spring might be in a perfect state of efficiency; for that work would involve hardships and a strain on every faculty of no ordinary character. There must be no illness, no despondency, no monotony, and the slightest tendency to any such evils must be energetically driven out and hunted away. To secure such desirable ends there was no better leader and originator than Captain Austin. He thought out and enforced every detail of the arrangements down to the minutest points. Captain Ommanney and his first lieutenant carried out the plans of their chief. Their whole aim was to secure the ends in view, and consequently their efforts were unceasing to carry out the admirable plans of Captain Austin, if possible to improve upon them on board the *Assistance*. But there was travelling work to be done before the winter

arrangements could be perfected; and in all matters relating to sledge travelling M'Clintock received unfailing and whole-hearted support from Captain Austin.

In the Ross expedition an initial mistake was the late start, and the late deposit of provision depôts. M'Clintock now conceived the idea of autumn travelling, to lay out depôts. It would be trying work, the ice not yet firmly fixed, the long night closing in with gales and damp. In full reliance on M'Clintock's experience, prudence, and zeal, Captain Austin left the details to him, and he started on October 2 with a sledge and six men, to lay out a depôt in the direction of Melville Island. He was accompanied by Dr. Bradford, with another six men and sledge. On the first day they made good a distance of 15½ statute miles, encamping for the night on smooth ice near a cape on Cornwallis Island. But their rest was disturbed by the water flowing up towards the tent, and there was a hasty retreat to the land by the light of the moon. On the second day a march of 13 miles was effected with the temperature at −11°, on the third there was a similar march, but a cutting gale of wind confined the travellers to their tents during the fourth day. On October 8 a depôt was established at a distance of 30 miles from the ships, on a ridge 40 ft. above the sea. This may be considered as the first tentative attempt at autumn travelling, to be developed on a much

more extended scale in the next expedition. At this season the ice is of recent formation and often weak and dangerous, while the rapidly decreasing light and increasing cold are also serious drawbacks. M'Clintock returned on the 9th with all his men in excellent health and spirits.

Looking back to the discomfort, despondency, sickness, and deaths in Ross's expedition, the task before M'Clintock was a difficult and most anxious one. Guided by experience, he knew well the mistakes to avoid and the right measures to adopt, and he had the advantage of Captain Austin's admirable system. Under any circumstances an Arctic winter is a very trying ordeal, both for the health and the spirits of officers and men; while the requirements of the spring called for more than ordinary exertion on the part of those who would have just emerged from a long period of darkness and intense cold.

The first essentials for the preservation of health are good and wholesome food, warm clothing, dry and well-ventilated lodging, cleanliness, and plenty of exercise. The most careful attention was given to these five points. Besides the looms and rotches, ten sheep and ten pigs had been taken out from England, and their frozen meat would supply fresh food on special occasions. The preserved meat from Hogarth & Gamble was the best of its kind to be procured in England, though the small amount of Australian preserved beef that was on board was much better. Variety

was secured by the issue of preserved soups (Cooper's ox-cheek soup being especially good), and of corned beef, pork, and sides of bacon; Normandy pippins, and materials for plum-duff. Fresh bread was baked, and excellent sugar beer was brewed. The lime-juice superstition was not then exploded, and its use was regularly enforced. The dietary could not have been improved.

The Admiralty was liberal in the supply of warm clothing. Each officer and man received a box-cloth jacket and trousers lined with flannel, waistcoat with sleeves of chamois leather, which was the mess dress, woollen comforter, Welsh wig, sealskin cap and gloves, carpet boots with cork soles, wadmill hose, and a pair of sea-boots.

The dryness and ventilation of the living deck were more difficult problems, but they were solved. A Sylvester stove was fixed on the keelson, whence hot air was conveyed round the living deck, securing almost complete dryness, while an equable temperature and ventilation were maintained by an ingenious system of up-takes and down-takes. The temperature of the living deck was from $+48°$ to $+53°$ Fahr., it being from $-30°$ to $-50°$ outside.

All washing and drying of clothes was done below and not on the living deck, the port main tier being cleared for drying clothes. Every man also had to have a warm bath once a week, all moisture being carried off without coming near the living deck.

A plentiful amount of exercise was enforced, as regards both officers and men, at first to Griffith Island, and when it became too dark along walks nearer the ship. Snow-posts were erected at short intervals between the two divisions of the squadron as guides during the frequent occurrence of snow-drifts and gales. The sculptors also exercised their art on a snow-house surmounted by a statue, a colossal snow bear, and a very fine statue of Britannia seated, between the *Resolute* and *Pioneer*. Provision had to be made for exercise inboard when gales of wind at very low temperatures made walks outside impossible. The upper deck was covered with a layer of snow 10 in. thick, and was housed in with waggon-cloth roof, and curtains, as far aft as the mizen mast. The curtains were not nailed down, but were fitted with stops to allow of their being triced up in fine weather, so as to secure free circulation of air, and disperse the dense volumes of vapour which would otherwise have accumulated under the housing. Special companions during the winter had been made for the hatchways, fitted with weights and pulleys, a scraper and a strong coir brush, so that the men might get rid of all snow-producing moisture before returning to the living deck.

These and many other arrangements, the enumeration of which would lead us too much into detail, secured the physical well-being of the expedition. But no one felt more strongly than M^c^Clintock that the mind re-acts on the body,

BRITANNIA IN SNOW

Between the *Resolute* and *Pioneer*, Captain Austin's Expedition

"Oh, you rule the waves, do you? A precious easy time you'll have this winter."

SANDERSON'S HOPE (VROUW ISLANDS)

and that all tendency to dullness or despondency must be dispelled by a continuous succession of amusements, courses of instruction, and social intercourse. He felt no such necessity for himself, as he was full of resource and his mind was quite occupied by the preparations for the great enterprise in the spring. But he could enter most fully into the feelings of those around him. He had seen the consequences resulting from a neglect of measures for keeping the men in good spirits. It was not in his nature to take an active part in festivities, but in his own quiet way he encouraged and organised all measures for interesting and amusing his people, and, as first lieutenant, he personally superintended necessary arrangements so far as the *Assistance* was concerned. His private journal shows that he was quite as much interested and amused by the fun and frolic that he had himself been mainly instrumental in setting in motion as any of the more prominent participators. There were lectures on various subjects, schools for teaching applied mathematics and navigation, and newspapers. The theatrical entertainments were undertaken by the *Assistance*, the masked balls by the *Resolute*, and the popular entertainments by the *Intrepid*.

Early in November M^c^Clintock began making preparations for the theatre, most ably assisted by Mr. Dean, the carpenter. It must be on the upper deck, for no one concerned could tolerate the idea of presenting it to so large an Arctic

public in the confined space below. Such a locality would in no way satisfy the grandeur of their conceptions. Temperature was of no consequence in comparison with scenic effect. It was +37° in the auditorium, +28° on the stage, and −20° outside. Willy Browne came every day from the *Resolute* to paint the magnificent proscenium and drop-scene, and the scenery. The proscenium was painted as masonry, with two doric columns and a vase full of flowers on either side, and the royal arms above, the upper part fitted into the slope of the housing. The sculptor, Dr. Ede, carved life-sized statues of the Prince of Wales and Princess Royal in snow, which were placed on either side. The play-bills were printed on coloured paper, silk, and chamois leather, and adorned with the royal arms, the Prince of Wales's feathers, delicately executed rose, thistle, and shamrocks, and ornamental borders of oak-leaves, acorns, and laurels, from blocks carved by Mr. May. The prompter was Vesey Hamilton, and the dramatic critic was George Murray, the quartermaster. Mecham was the best actor, Krabbé and Ede running him very close. The first performance was on November 9, when one play was acted by the officers and one by the men. The audience numbered 160, the Commodore, as Captain Austin was always called, being in a chair of honour with a stove on each side. The success was complete, and there were warm congratulations at the sumptuous supper which followed. But it

was stormy outside with intense cold, and next day a gale was blowing.

Nothing in the Arctic regions has ever approached the splendour of the theatres constructed by Messrs. McClintock and Dean. There were five performances during the winter, on each night one play by the officers, the other by the men, with topical songs between the acts. Several such songs appeared during the winter and were printed, perhaps the best being one by Dr. Ede to the tune of "The Ivy Green."

Through ages long past the British name
Has been known in every clime,
And all must trust that the well-earned fame
Will endure to the end of time.
To rescue from death the friend or foe
Was ever the sailor's boast,
And now 'mid the terrors of frost and snow
His courage is needed most.

Chorus.
Seeking, where the lost have been,
A gallant band may yet be seen.

There were three verses. The fine voice of Bob Aldrich was also heard before the drop-scene, with an Arctic song of his own composing. It had a rousing chorus:

Push on, my lads, push on!
There's nothing will discourage us,
Until our work is done.

The most absolutely unique feature of this theatre was the performance of a regular panto-

mime. It was written by Dr. Ede, and in designing the numerous contrivances Mr. Dean was put on his mettle. The magnificent scenery, painted by Willy Browne, represented the *Assistance* nipped off Dungeness, between lofty hummocks of ice. Turning all the dangers and difficulties to which polar explorers are exposed into mischievous imps and spirits, it supposes them to be watching every opportunity to surprise a travelling party. They were led by old Zero, with a long white beard and a gigantic thermometer which he is continually pushing lower and lower. The imps were named Frostbite, Scorbutus, Nip, and Hunger.

In the transformation scene their power is destroyed by the more puissant good spirits, Sun and Daylight, who become Harlequin and Columbine. Zero is turned into first clown. A bear had been prowling about the stage for some time. It was fired at by Zero with his thermometer, which turns out to be also a gun, and out tumbled pantaloon and a second clown. Then commenced the pantomime of fun and frolic, relieved at intervals by the graceful and elegant *pas de deux* of Harlequin and Columbine. Several songs alluding to the position and objects of the expedition were introduced. The conception of the piece, its composition, the contrivances for stage effects, and the way it was put on the stage were all admirable. It was twice acted by the men. M^c^Clintock and his mess-

mates entertained their visitors at a very hilarious supper, and the pantomimic actors were supplied with the means of doing likewise. Captain Ommanney was generally acting, and on the last night he delivered a neat and appropriate epilogue, at the conclusion of which a unanimous burst of acclamation arose from the whole house. The robust animal spirits and excitement of actors and audience prevented any inconvenience from the cold. Erasmus York, the young Eskimo, passed several subsequent days searching all over the ship for the *kunas* (women) he had seen on the stage.

The *Assistance* certainly did her share of the winter hilarity, but the *Resolute* ran her very close. The *bal masqué* on board Captain Austin's ship was an entertainment of unsurpassed magnificence. The quarter-deck was lighted by a very beautiful chandelier, and the master of the ceremonies, dressed as Punch, received the visitors. The whole living deck was arranged for the ball-room, with a counter right forward where Sergeant Gough, as a buxom landlady, dispensed drinks. Each guest received two tickets, with a view to his being made jovial without excess. Captain Ommanney was heroic on this occasion. He represented the Mayor of Griffith Island in crimson robe and gilt chain, and had himself taken to the *Resolute* in a sort of brougham drawn on a sledge, and attended by a mace-bearer (Tullett, captain of the forecastle), a liveried footman (Dawson, a

fore-top man), and a foot-page in buttons and high hat (Erasmus York). Having read an address he was ushered down into the ball-room by Punch, and then dancing began. His return was after midnight and in quite a different manner. It recalled Cinderella after that late hour. The costumes were wonderful. No one recognised the Commodore in either of his two dresses, as an old chair-mender or a blacking-bottle. The ladies were Queen Boadicea, a young lady, a Spanish dancer, a vivandière, Maria, Tabitha, and the landlady. M^c^Clintock entered fully into the spirit of the *función*, and few recognised him in an elaborate dress recalling Gainsborough's blue boy, wearing a blue mask. The delightful popular entertainments on board the *Intrepid* further added to the hilarity of the winter.

Christmas came with its good cheer, and elaborate displays on the mess decks of all the ships. On New Year's Day Bob Aldrich entertained all and sundry with gin and ginger-bread, a commemoration which he repeated at his own home for a long succession of years. He also gave a series of lectures on Arctic exploration to the men.

During Parry's first winter at Melville Island the *North Georgian Gazette* was published, but since then, except off Griffith Island in 1850–51, the Arctic press has been silent. It was not silent in Captain Austin's squadron, very much the reverse. Never was journalism more to the

front. An excellent periodical edited by Dr. Donnet, and entitled the *Aurora Borealis*, appeared monthly on board the *Assistance*, the men as well as the officers contributing; indeed, the best writer was a quartermaster on board the *Intrepid* named George Murray. M^c^Clintock contributed an article on Baffin's voyage, one on an Arctic Christmas, and some answers to questions in mechanics. On board the *Resolute* Sherard Osborn edited the *Illustrated Arctic News*, which was very beautifully illustrated by M^c^Dougall. There were also two society papers, trenchant and satirical, but short-lived. One, which appeared on board the *Assistance*, was entitled the *Minavilins*, the other was called the *Gleaner*, and was issued from the *Resolute*.

Thus it was that, by the closest attention to the physical welfare of the men, and by a plentiful and never-flagging supply of food for the mind, the leaders had the joy of seeing all in perfect health, thoroughly fit, and full of high hopes for success when the sun returned.

March was the coldest month, the mean $-34°$ and the minimum $-53°$. But there was daylight. The sun had returned. Captain Austin issued an important order on March 10. Hitherto all efforts had been concentrated on the preservation of health by attention to exercise in the open air, instruction, amusement, and social intercourse. From that day attention was to be devoted to preparations for sledge travelling. Time hitherto

given up to instruction and amusement was henceforward to be occupied in making the equipments complete in every detail. The period hitherto employed in exercise was to be given up to healthful exertion in practising with loaded sledges.

There was a committee composed of the lieutenants and heads of departments which met every week to compare notes and make suggestions ; but practically all the details were left to M^c^Clintock. He had, in fact, settled and ordered everything before leaving England.

The sledges were made of Canada elm, the cross-bars of ash. The upper and lower pieces were called the bearer and the runner, the uprights being tenoned through them. A shoeing of $\frac{1}{8}$ in. iron 3 in. wide and slightly convex on its under-surface was riveted and clinched to the runner. Length, 13 ft. for ten men, 9 ft. for six men. The cross-bars were lashed on with strips of hide whilst warm and wet, so that cold would shrink them and make all tight. Width of bearer, $2\frac{1}{2}$ in., six uprights, six cross-bars 3 ft. wide. At each corner there were light iron stanchions dropped into sockets, forming supports to sides of a tray or boat capable of serving to ferry the sledge crew across water ; the sides being of painted canvas ; also keeping the provisions and clothing dry. Weight, 115 lb.

The tents were 15 ft. long by 8 ft., and 8 ft. high, the flap round the bottom 1 ft. wide, and

there were curtains at the door end 2 ft. wide by 6 ft. high, to afford shelter for the cook. The tent was of closely woven duck, head-rope of horse-hair. There were four small holes in the top for the escape of steam and breath. The four tent-poles of ash, pointed at one end with metal, were 9 ft. 8 in. long. Weight, 55 lb. The blanket or felt sleeping-bags allowed 15 in. for each person, seven weighing 42 lb. There were also wolf or buffalo-robes, 40 lb.; waterproof floor-cloth, 12 lb.; shovel, $5\frac{1}{2}$ lb.; and the cooking apparatus.

McClintock had given very close attention to the cooking apparatus and the fuel to be used. It consisted of the spirit-lamp holding $1\frac{1}{2}$ gill, the kettle with a short spout and two handles, and the stand, weighing 17 lb.

The sledge, tent, cooking apparatus, knapsack for spare clothes, and sundry bags were the irreducible constant weights, amounting to 440 lb. In considering the question of diet, McClintock was mindful of the insufficient amount of meat and the absence of tobacco in Ross's expedition. The improved scale was as follows, per man per day:

Lime Juice.	Pemmi-can.	Boiled Pork for Lun-cheon.	Biscuit.	Rum.	Tobacco.	Biscuit Dust.	Tea and Sugar.	Choco-late and Sugar.
½ oz.	1 lb.	6 oz.	12 oz.	½ gill.	½ oz.	1 oz.	½ oz.	½ oz.

besides salt and pepper, curry and onion powder. The fuel for this ration would be 1 pint 1 gill

of spirits of wine (21½ oz.), or 28 oz. of tallow or stearine. At this time M'Clintock's conclusion was that forty days' provisions was the utmost that one sledge could carry. The provisions (736 lb.) and fuel (140 lb.) for seven men for four days weigh 876 lb. and the constant weights 440 lb., total 1,316 lb., or 220 lb. per man at starting, the weights being reduced by 22 lb. each day.

M'Clintock proposed that each division of sledges should have an auxiliary sledge to fill them up at a distance of fifty miles from the ship; and each extended sledge was to be accompanied by a limited sledge to fill it up again 100 miles farther on. At the rate of 10 miles a day these arrangements would enable the extended sledge to advance 350 miles from the ship, picking up depôts on its return.

Thus did M'Clintock place the means of a most extensive search for our missing countrymen in the hands of the Commodore. Nothing to be compared with it, in magnitude and efficiency, has ever been seen in the Arctic regions before or since. At the starting-point there were 180 men; counting the crews of Penny's brigs, 220 men.

Captain Austin had no clue. The winter quarters at Beechey Island had told him nothing. Franklin's instructions merely told him to make the best of his way to Bering Strait from Barrow Strait, working west and if possible south from Cape Walker, with the alternative of trying

Wellington Channel if it was found open. At that time little was known of the region to be searched. From Beechey Island to Byam Martin Island coast-lines of islands had been sighted by Parry in 1819–20, on the north side of Barrow Strait, with channels between them. On the south side one point of land had been seen by Parry, which he named Cape Walker. All the rest was a blank except Melville Island, where Parry wintered in 1819–20, and the west coast of North Somerset examined by Sir James Ross and M'Clintock in 1849.

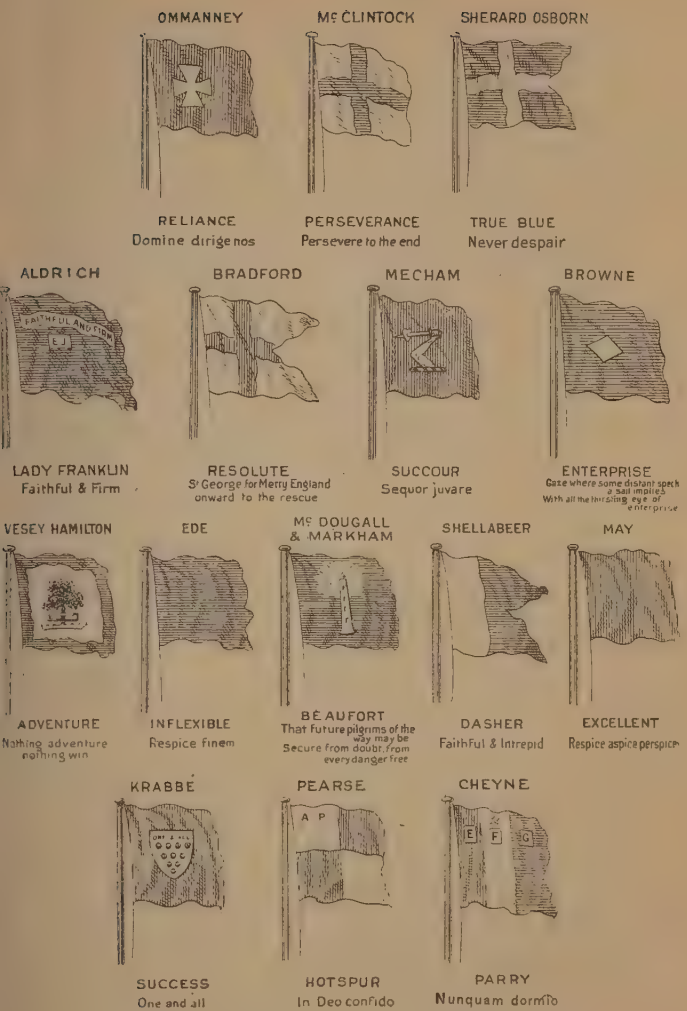
Captain Austin resolved to search in every direction to the utmost extent of the means at his disposal. If Franklin had failed to work south from Cape Walker, he would, it was thought, endeavour to make westing. Melville Island was, therefore, considered by Sir Edward Parry to be a direction in which to search.

Captain Austin arranged that Penny should undertake the search of Wellington Channel. The route to Melville Island was the longest, and it was entrusted to M'Clintock. Two other extended parties were also to go westward to search channels between the islands, with three limited parties and one auxiliary. Three extended parties, under Captain Ommanney, were to make for Cape Walker, and thence to spread out as the lay of the land might suggest, also with three limited and one auxiliary party. Another party was to work nearer home, and search between

Cornwallis and Bathurst Islands. Thus the searches were to ray out from one centre in no less than eight different directions. It was a grand scheme, ably conceived, and most admirably carried out in all its details.

During the last three weeks of March the sledge crews were exercised daily. They wore white cotton jumpers over their warm clothes, from which the snow is more readily brushed; on the feet were warm socks, square blanket wrappers, and carpet or canvas boots. Each man had a tin water-bottle, covered with flannel and placed inside the clothes, in the hope of keeping the water thawed—a vain hope in March or April. Trials were made of new inventions. Sails were set with the wind right aft or on the quarter. The tent-poles were used as sheers and for a yard, and the floor-cloth for a sail. Under favourable circumstances this was a great success. Large square kites, the invention of Leigh Smith's father, were also tried and were partially successful.

Each sledge had a name, a motto, and a flag. It was a grand sight to see the whole fifteen sledges loaded and manned, marching in two long rows over the ice morning after morning, with the frowning cliffs of Griffith Island as a background. There were Captain Ommanney's Maltese cross on a red field, the blue cross of McClintock, the St. George's cross of Bradford, Osborn's white cross on blue, the arm with a pierced heart of



SLEDGE FLAGS OF CAPTAIN AUSTIN'S EXPEDITION

Mecham, the sawn tree of Hamilton, and many more. The mottoes were "Persevere to the end," "Never despair," "St. George for merry England," "Onward to the rescue."

The sledge for the channel between Cornwallis and Bathurst Islands, and to examine the autumn depôts, started on April 4, ten days before the others, receiving three cheers from the assembled expedition. The thermometer was from —14° to —20°, but all the equipments answered admirably, and the food was much liked, while nothing was thought of the hard work, and the novel life was thoroughly enjoyed. It was an auspicious beginning. The other sledges were to start on April 15.

CHAPTER X

THE SLEDGE JOURNEY OF 1851

APRIL 15, 1851, is a memorable day in Arctic history, for never before and never since has so large a body of enthusiastic men been assembled in the polar regions, all bent on facing perils and hardships in the noble cause of humanity. Three days previously the sledges had been taken to the starting-point at the north-west bluff of Griffith Island, marching in two columns with colours flying. On reaching the halting-place tents were pitched, luncheon served out, and a speech was made by the Commodore after all the sledge crews and their equipments had been inspected. Captain Austin generously expressed his thanks, and the thanks of the expedition, to McClintock, to whose foresight, whilst in England, and to whose valuable information collected during his sledging experiences under Sir James Ross in 1849, all were now indebted for the present perfect equipment. The sledge crews then returned to the ships for two days of rest. In the evening of Tuesday, April 15, the temperature being as high as + 18°, all hands proceeded to the sledges. The fourteen sledge crews num-

bered 102 men. All assembled round the good old Commodore, who read a short prayer and delivered a stirring address.

Although [he said] I shall not be sharing the toil with you yet, from the time that these extensive operations were first made known, the high spirit and earnestness with which all have entered into the preparations has afforded me the highest gratification, and enables me to look forward with much confidence to the future. Be assured that my thoughts and prayers will always be with you until your return.

Then, grasping their tracking-lines, a hundred voices joined in loud cheers, and the divisions of sledges, diverging on their different routes, were soon lost sight of in the snow and mist. It was a soul-stirring event, worthy the pencil of a great artist. McClintock wrote:

There was exhibited by both officers and men a degree of earnestness and deep feeling which nothing short of the humane objects of our labours and the perilous undertaking we had embarked in could have called forth. The men were so excited that they could scarcely be prevented from pushing forward with their utmost strength.

McClintock started with the full intention of doubling his former record. He was away for forty days with Ross. He would now be eighty days on the work of searching Melville Island at the rate of 10 miles a day. The name of McClintock's sledge was *Perseverance*, the flag a blue

cross on white ground, the motto "Persevere to the end." It was a good omen that the weather favoured him at first, and he not only made sail on the sledge but set several kites, which were useful in directing the course. He was accompanied by Dr. Bradford, the two limited sledges and the auxiliary sledge. Bob Aldrich, who was to search the west coast of Bathurst Island, shaped a parallel course, accompanied by his limited sledge, under Dicky Pearse.

As soon as the tent was pitched, the floor-cloth was laid down, blanket sleeping-bags spread out, and a buffalo-robe placed over them. The officer had the inside place, which was the coldest. The men took it in turn to be cooks of the mess. In the most severe weather night was turned into day, the latter being a trifle warmer for sleeping; so that supper was at 6 a.m. It consisted of a pannikin of pemmican, biscuit, and grog. Meanwhile, boots were taken off, feet carefully examined for frost-bites, snow-blindness doctored by pouring *vinum opii* into the eyes—"open eye," the men called it. Then all got into the sleeping-bags, full-dressed except for external duck-shirt and boots. There were songs and most amusing yarns before all were wrapped in sleep. "Is the chronometer wound?" was the form of saying good-night, lest by a momentary forgetfulness all record of time should be lost. But the officer had to write up his journal, and to disturb his rest by taking astronomical observations outside.

CAPTAIN AUSTIN ADDRESSING THE SLEDGE TRAVELLERS

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Breakfast consisted of cocoa or tea and biscuit. The rime which had condensed on the sides of the tent came down in showers. Then the agony of forcing the feet into boots frozen hard as iron had to be undergone.

Everything being packed and ready, the journey began at about 6 p.m. The officer fell into the drag-ropes with the men, except when he was wanted to guide the sledge, keeping a sharp look-out for game. There was a short halt for luncheon, consisting of a piece of pork fat frozen so hard that it broke like biscuit, and a small tot of rum. But it was difficult to drink out of a pannikin without leaving the skin of the lips attached to it. The process called for considerable experience and caution, and led one at least of the travellers to exclaim with "Hudibras"—

> Ah me! what perils do environ
> The man that meddles with cold iron!

The halt for luncheon was no rest, because it was necessary to run up and down to prevent frost-bites. Then the march was renewed, and the routine of one day was completed with the pitching of the tent. The hours of marching were from eight to ten hours, not counting the half-hour's halt for luncheon.

The journeys along the coast of Bathurst Island were full of interest, for all was new. Parry had just sighted it in 1819–20, but no one had ever trodden those sandstone ridges since the wandering

Eskimos were there centuries ago. So that the coast had all the charm of a new discovery. There were traces of coal, and the explorers admired the beauty and luxuriance of a bright red lichen which was growing on the sandstone blocks.

But the cold was intense, and gales of wind on two or three occasions confined the travellers to their tents for twenty-four hours at a time, where they were half frozen. Chamois leather was put on the screws and eye-pieces of sextants, and flannel on metal handles. Frost-bites played about the faces of the men, but they could at once be seen and attended to. The great danger was with the feet. Notwithstanding an almost daily examination, some of the men were so severely frost-bitten that they had to be sent back with the limited sledges. Two of M'Clintock's own crew had to be exchanged for two of the limited sledge crew. This was on April 29. M'Clintock wrote :

"It was with sincere regret I bade farewell to those poor fellows whom it had become necessary to send back. Unconscious of the danger of neglecting their injured extremities, and despising the pain which labour occasioned, they still desired to go on ; and their sad countenances betrayed the bitter disappointment felt at being unable to proceed further on our humane mission."

The six chosen men of M'Clintock's memorable sledge journey deserve a place in the list of Arctic worthies. Two out of the six, before three years were passed, had given their lives in the cause

A SLEDGE ENCAMPMENT

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of the Franklin search. James Wilkie, the captain of the sledge and a forecastle man of the *Assistance*, had been with M'Clintock in the *Enterprise*. He was a splendid seaman, zealous, cheerful, and humorous, but just a shade too old for the excessively hard work. He was thirty-three. James Hoile, a sailmaker and foretop man, was a fine, tall man, aged twenty-five, excellent in all respects. James Dawson was twenty-three, a good-looking young foretop man from the *Assistance*. John Salmon, a small wiry man, came from the *Intrepid*, and had previously served with M'Clintock in the *Enterprise*. After-years showed him to be constitutionally the strongest of all, and he was untiring in his devotion to the search. His age was twenty-four. Of the two marines, Thomas Hood was a steady hard-working man, a good servant, and a shoemaker by trade, which made him very useful in a sledge journey. He had previously served in the *Enterprise* with M'Clintock. Hood was aged thirty-one, and marked with the small-pox, which earned for him the name of "Rough" as a term of endearment. Lastly, Jim Heels, a zealous young fellow aged twenty-four, who sang a good song, was a marine from the *Resolute*.

The officers always worked at the drag-ropes, fully sharing the labour with the men, except when their duty obliged them to go ahead as guides. Soon after the departure of the last limited sledge, Aldrich parted company to search

the west coast of Bathurst Island, and Bradford to perform similar service on the east side of Melville Island. M^c^Clintock pushed onward to the westward.

Bears were often seen in the distance, but it was not often that they would come within shot. Their capture was very important, for a large bear would yield 50 lb. of blubber, forming an addition to the supply of fuel. On May 1 a bear approached the camp rapidly from to leeward, evidently full of curiosity, taking advantage of every hummock to cover his approach. When he was within 70 yards he stopped and sat down, advancing more slowly. He pushed himself forwards with his hind legs, steadying himself with his forepaws outstretched. Having advanced 10 yards, he stopped for a minute or two, intently eyeing the encampment and sniffing the air in evident doubt. Then he began to retreat, pushing back with his four legs. This very inquisitive bear was secured, but not until he had received six bullets and had retreated 300 yards. He yielded 50 lb. of fuel, and there was bear steak for breakfast next day. On the 12th two bears were seen walking up and down on the ice, sniffing for seals, and M^c^Clintock tried to get within shot by approaching them behind a kite. But the kite was much too dirty to be mistaken for a hummock, and the bears made off. Another was, however, secured later in the day.

Melville Island proved to be a land of plenty.

It was very interesting as the place of Parry's winter quarters in 1819–20. There is an extraordinary difference, as regards vegetation and animal life, between the limestone and sandstone Arctic islands. Musk oxen only occur on Melville and Banks Islands. Reindeer have a wider range, but are much more numerous on Melville than on any other Arctic island, hares and ptarmigan also being more abundant there. The march along the south shore of Melville Island was ushered in by a breakfast of chocolate, ptarmigan mixed with pemmican, and bear steak.

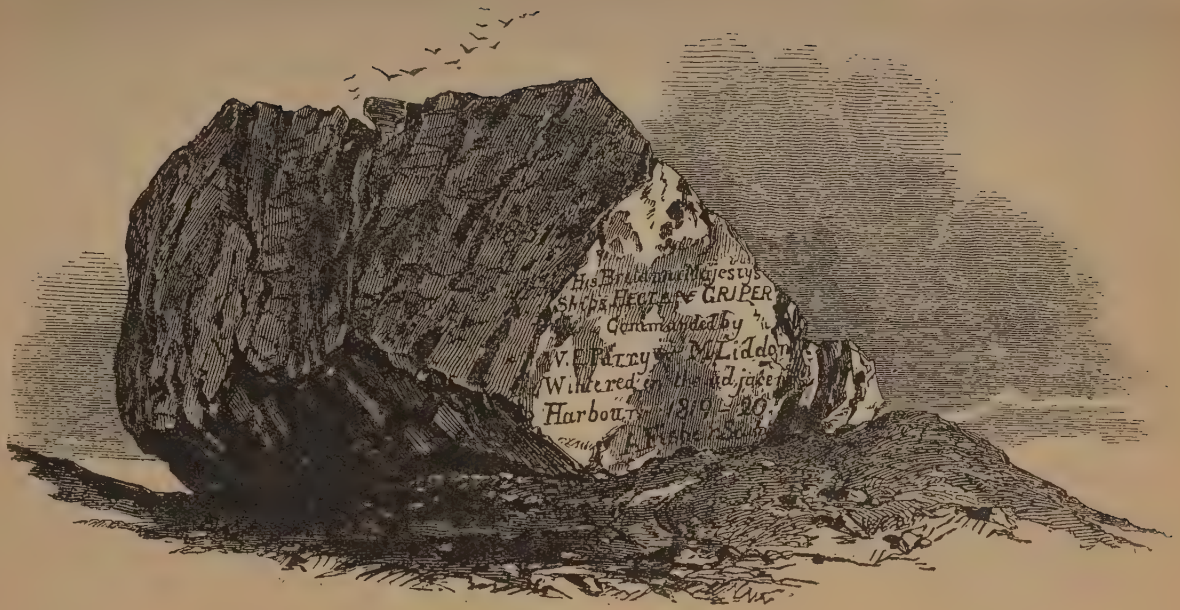
There had been great pressure off Melville Island, some of the lines of hummocks being 20 ft. high, but smooth ice was found in-shore. M^c^Clintock passed the entrance of the winter harbour of Parry, intending to examine it on his return. He reached Cape Hearne, where he came upon a herd of eight musk oxen. They did not see him until he was within 200 yards, when they galloped away for a few yards, then halted and formed for defence close together in a semicircle, with heads down and horns looking like a row of hooks in a butcher's shop. He shot the outermost one, which was the largest. The rest did not move until he retired to fetch men to cut up the carcase, and then they quietly continued scraping away snow with their hoofs in search of food.

Continuing to advance westward, the sledge travellers came to sandstone cliffs 450 ft. high,

having a buttress-like appearance similar to those in Lancaster Sound, and intersected by ravines, their beds strewn with rounded stones of all sizes. M'Clintock ascended to the highest part of the cliffs, and obtained a clear view of Banks Island on the far southern horizon. He had now reached Cape Dundas, the most western point of Parry in 1819. All beyond was new discovery. The newly discovered land stretched away to the westward for at least 70 miles. At this time M'Clintock was in high hopes of finding traces of some of Franklin's parties. It is true that Sir John's instructions precluded the idea that he had attempted to make the north-west passage by passing along the south shore of Melville Island; for he was warned that the very heavy ice off Cape Dundas would preclude an advance by that route. But it was thought that if our missing countrymen had gone up Wellington Channel, and worked thence to the westward, the ships might have been beset somewhere to the north of Melville Island, in which case retreating parties would try to make their way across that island to the American Continent.

M'Clintock had noticed that Parry, in his narrative, mentions Bushnan Cove, on the north side of Liddon's Gulf, where he encamped on June 11, 1820, as a very charming spot.[1] He left the cart

[1] "The head of Bushnan Cove is one of the pleasantest and most habitable spots we had yet seen in the Arctic regions, the vegetation being more abundant and forward than in any other



PARRY'S SANDSTONE

there which had broken down. This was thought to be the point for which a retreating party would be likely to make, and M^c^Clintock was full of hope when he shaped a course to Bushnan Cove. But he only found the wheels of Parry's cart and the bleached bones of the ptarmigan his party had eaten. These relics were interesting enough, but they did not make up for the disappointment at discovering no traces of our missing countrymen. From Bushnan Cove M^c^Clintock marched overland direct for Parry's winter harbour, encamping near the huge block of sandstone at the entrance, on which Mr. Fisher, the surgeon, had carved an inscription. The block is 10 ft. high and 22 ft. long, and as yet, after more than thirty years, no lichen growth had entered into the lettering of the inscription. A snow-white hare lived beside the inscribed rock.

The way-worn travellers were soon on most friendly terms with their neighbour, the hare. She regarded them with the utmost confidence, hopping about the tent all day, and almost allowing the men to touch her. Some of them wanted to take her back as a pet, but M^c^Clintock reasoned them out of it, as he did not wish the confiding creature to be disturbed. He had never seen any

place, and the situation sheltered and favourable for game."—Parry's "First Voyage," p. 199. The place was named after one of Parry's officers. His daughter, Miss Bushnan, came on board the *Resolute* at Woolwich, and was much interested at seeing her name on the chart. Dicky Pearse, who was very attentive to her, got the nickname of Bushnan's Cove.

animal, in the natural state, so perfectly fearless of man, a sufficient proof that no one had been there since Parry's time.

On June 6 the Melville Island party started for the homeward journey. The Arctic summer was fast approaching. Birds began to appear, phalaropes, dotterels, and sandpipers, as well as brent geese, ducks, and some gulls. With the summer came a very harassing kind of travelling, in some respects worse than the period of intense cold. Large pools of water formed on the ice floes, and the men often got wet through in half-frozen water. A mixture of ice and snow formed a crust over the pools of water 1½ in. thick, but not strong enough to bear. Often the sledge had to be dug out of deep soft snow. They waded and struggled through all these discomforts, and on July 4 M'Clintock and his gallant band arrived alongside the *Assistance*, where they had a most enthusiastic reception. Up to that date it was by far the greatest Arctic feat on record.

They had been 80 days away, 44 days out and 36 days home, and had made 770 miles, having marched a distance of 300 miles from the ship. During two days and a half they were detained by the weather, and they dragged the sledge at a daily rate of 10½ miles. The concluding words of M'Clintock's report were:

"Although some considerable degree of disappointment is at all times the result of an unsuccessful search, the more so when its object

is to relieve our fellow-countrymen in their utmost extremity, yet in justice to my own feelings, and to those men whose labours have enabled me to fulfil my instructions, I cannot conclude the account of a journey of eighty days without expressing the satisfaction their conduct has afforded me. Their ever-cheerful behaviour, untiring perseverance, and patient, enduring spirit under many severe trials and privations excited my warmest admiration. For the blessings of health and strength, and the exemption from accidents, without which we must have sunk under the difficulties of the undertaking, our deepest gratitude is due to the Giver of all good gifts."

All the other extended parties carried out their instructions with zeal and efficiency. Dr. Bradford examined a hundred miles of the east coast of Melville Island; Aldrich explored the west coast of Bathurst Island; Penny searched the shores of Wellington Channel for a considerable distance; Captain Ommanney led his division of seven sledges to Cape Walker—the three extended parties commanded by himself, Sherard Osborn, and Willy Browne, the limited parties by Mecham, Vesey Hamilton, and Ede, and the auxiliary party by Krabbé. At Cape Walker Browne proceeded to explore the western shore of the channel discovered by Sir James Ross in 1849, Mecham discovered the large island on which Cape Walker is situated, while Ommanney and Sherard Osborn pressed onwards to the west and south. Two possible routes were searched, and a very large island was discovered, which received the name

there had been no accidents and no illness. The expedition was supplied with 3,546 lb. of fresh meat from shooting, besides the live-stock brought from England. Every one had been kept in perfect health and spirits. Never had there been such a merry and harmonious winter. The ship of which M^c^Clintock was first lieutenant was known in the squadron as the "happy and jolly *Assistance*." Never had there been such sledge-travelling. Of all the Arctic expeditions, Captain Austin's expedition was the happiest, the healthiest, the best administered, and the most successful. It performed all, and more than all, that had been planned by its chief, being the utmost that could be done from its base with the means at its disposal. Its sledge travellers, in their searches, had covered 7,025 statute miles on foot, and discovered 1,225 miles of new land.

Captain Austin's squadron left winter quarters and was clear of the ice by August 11. Searches by extended parties had been made in seven different directions, and there was no trace whatever. It was certain that Franklin's ships were not to be found on any of the routes but one to which searches had been directed. If they had gone up Wellington Channel, or to Melville Island, or up Byam Martin Channel, or west of Cape Walker, traces must have been found, because, when provisions were exhausted, Franklin's people must have retreated towards Barrow Strait. Captain Austin, therefore, came to the conclusion that the

missing expedition was not west of Lancaster Sound. He therefore resolved to search Jones's Sound, and then return home. This reasoning was sound, and absolutely correct except in one single instance. There was the channel, the eastern shore of which had been searched by Sir James Ross and McClintock, and the western by Lieutenant W. Browne. Captain Austin had named it Peel Sound. If the Franklin expedition had gone down that channel—and in point of fact it had done so—the retreat might not be to Barrow Strait, but to the continent. This was overlooked by Captain Austin, because such great authorities as Sir James Ross, Sir John Richardson, and Sir George Back had declared that it was quite out of the question that Franklin should have taken that route. So it remained out of the question. In all other respects there was not a weak point in Captain Austin's reasoning. He had conducted the expedition with exceptional ability and success, and his conclusions, except on that point, were based on sound reasoning and were quite correct. Those who disagreed with him proved to be utterly wrong on every point.

The *Assistance* was paid off at Woolwich on October 10, 1851.[1] McClintock had gained more

[1] Captain Austin was superintendent of Deptford Dockyard during the Crimean war, a post of great importance at that time. In 1860 he became an admiral and K.C.B. Sir Horatio Austin was appointed Admiral Superintendent of Malta Dockyard in 1863. He died in 1865.

Captain Ommanney had the *Eurydice* in 1854, and commanded

Arctic experience. He had been first lieutenant of the best administered and the happiest ship that ever crossed the Arctic circle, and he had made several life-long friendships.

the squadron in the White Sea. In 1855 he had the *Hawk* in the Baltic; and afterwards the *Brunswick* in the West Indies. He paid the *Brunswick* off in 1860. He was afterwards Captain Superintendent at Gibraltar. He was knighted in 1876, rear-admiral in 1864, and retired in 1874, Knight of the Redeemer of Greece, K.C.B., F.R.S., and F.R.G.S. Sir Erasmus Ommanney died in December 1904, in his ninety-first year. See *R.G.S. Journal* for January–June 1905, p. 221.

CHAPTER XI

VOYAGE TO MELVILLE ISLAND AND PREPARATIONS FOR THE SLEDGE JOURNEYS OF 1853

M^cCLINTOCK returned to England in the autumn of 1851, after a great triumph in sledge travelling. He found Parliament and the country as anxious as ever to ascertain the fate of Franklin, and that the Government would be bound to continue the search. He therefore volunteered for the next expedition, and in the meanwhile he went home to his mother in Dublin, and was busily employed, during the winter months, in trying experiments to decide upon the respective merits of different kinds of fuel for cooking in very low temperatures.

Though poorly endowed with this world's goods, McClintock's was a very united family. His mother, with her unmarried daughters, lived at 2, Gardiner's Place, Dublin. His brother was a rising physician, who afterwards made a great name for himself, and died in 1881 as President of the College of Surgeons in Ireland; and during his short intervals of rest McClintock found a very happy home with his people. In Dublin he made the acquaintance of men of science, who helped

him in his researches and experiments ; especially with Professor Haughton he formed a life-long friendship.

Meanwhile an Arctic Committee, consisting of seven experts and three officials,[1] was appointed to advise the Admiralty what course to pursue, Captain Austin and his officers being excluded, as well as Dr. King, the persistent advocate of the right direction. Six members of the Committee thought that the Franklin Expedition had gone up Wellington Channel, and that the ships were beset far to the north of Melville Island. Three expressed strong opinions that Franklin had not adopted the route which he actually did take, and that he would not have done so under any circumstances. Captain Beechey alone thought that the mouth of the Great Fish River and adjacent coasts should be searched. Captain Bird gave no opinion, nor did two of the Admiralty officials.

It was a case of the blind leading the blind. Captain Austin had planned and carried out a scheme of search on a scale equal to the emergency, sending extended parties in every direction. To send again in any of these directions, but one, was useless. In that one direction the Admiralty would not search. But Lady Franklin, with marvellous prevision, was most anxious that the one neglected route should be provided for. With

[1] Sir Edward Parry, Sir J. Richardson, Sir James Ross, Sir G. Back, Colonel Sabine, Captain Beechey, Captain Bird ; and Sir Francis Beaufort, Capt. W. A. B. Hamilton, John Barrow, Admiralty officials.

this object she sent out the *Prince Albert* in 1850, but her commander returned without attempting anything. In 1851 she again fitted out the *Prince Albert*, giving the command to a Mr. Kennedy, who was accompanied by Lieutenant Bellot, of the French navy. The instructions were the same—to winter on the coast of Prince Regent's Inlet, cross the land of North Somerset at its narrowest and most southern part, and continue the search southward from Sir James Ross's farthest. Kennedy did much better than Forsyth. He wintered at Batty Bay in Prince Regent's Inlet. He had a small team of dogs, and he started in the spring of 1852 to carry out his instructions, accompanied by Lieutenant Bellot. In one respect this journey had an important result, for the travellers discovered the strait which separates North Somerset from the American continent. It has received the name of Bellot's Strait. But then a fatal mistake was made. Instead of obeying Lady Franklin's instructions and turning south, Kennedy turned north, went over ground already discovered and searched by Captain Austin's officers, and returned to his ship, arriving in England in the autumn of 1852. If he had obeyed his orders Kennedy would have discovered the fate of Franklin. We now know that Lady Franklin alone desired the right direction to be taken, but she was unfortunate in her choice of commanders who did not carry out her instructions.

The Admiralty resolved to adopt the advice of the Arctic Committee. The same four vessels were to be commissioned again, and to form two divisions, one to go up Wellington Channel, the other to proceed to Melville Island and extend the search beyond that so ably conducted by M^c^Clintock in 1851. The Melville Island division might have another very important duty to perform. The two ships, *Enterprise* and *Investigator*, which had been sent up Bering Strait in 1850, under Captains Collinson and M^c^Clure, had not been heard of for a long time. M^c^Clure and his people were entering upon a third winter and might soon be in need of relief. This was pointed out by the father of Creswell, one of the lieutenants of the *Investigator*. Nothing could be done for the Franklin search by sending in directions he had never taken, but the relief of the *Investigator* proved to be a service of the utmost importance.

The great question of the command of the two divisions had to be decided. Common sense pointed to M^c^Clintock and Sherard Osborn as the best leaders of the two divisions. Both were older than Parry when he commanded his first and most successful expedition. Both possessed unequalled recent Arctic experience. Both had good health and were men of tried ability, respected and liked by all who had served with them. The Admiralty preferred Sir Edward Belcher, an officer well advanced in years, with indifferent health, without

experience, and notoriously unpopular in every ship he had ever commanded. He was the very last man in the navy who should have been selected. It was not enough that he should be allowed to bring misery, disaster, and failure on his own division, but both divisions were placed under his command. Fortunately the two divisions were to go in different directions, so that the second division was free from Captain Belcher's disastrous interference during the two years of work. Belcher commanded the *Assistance*, and Sherard Osborn was appointed to his old ship, the steam tender *Pioneer*. If Osborn had been in command extensive geographical work would have been achieved, forestalling the greater part of Sverdrup's recent discoveries. He did explore the east and north shores of Bathurst Island. But he was subjected to every sort of petty annoyance by Belcher, his life and the lives of his brother officers were made miserable, especially during the second year, and finally he was driven out of his ship and put under arrest.

The officer appointed to command the second division, consisting of the *Resolute* and *Intrepid*, was fortunately unlike Belcher. The two were as wide as the poles asunder. Kellett trusted his officers and men, had their sympathy, and was universally popular. M^c^Clintock found him "kind, generous, and open-hearted." Henry Kellett had had a distinguished career in the navy as a surveyor, and had done most valuable service in the

China War under Sir William Parker. Hearty, joyous, with a charming manner, he gave pleasure wherever he went. Fond of his profession, a first-rate sailor, a good surveyor, he delighted in hard work when in his prime, and as soon as work was done he was foremost in play. But he had seen thirty years of hard service, suffered from ill-health, and was not the man he had once been. He was, however, splendidly supported. Mecham was the first lieutenant of the *Resolute*. He had learnt Arctic methods and sledge travelling under McClintock, as had Vesey Hamilton, the third lieutenant, and Mr. Dean, the carpenter. McDougall, the master, was also in Austin's expedition, as well as seven of the men. There were three young mates in the *Resolute*, Nares, Roche, and an *enseigne de vaisseau* of the French navy named de Bray.

On February 10, 1852, McClintock was appointed to the command of the *Intrepid* steam tender, his first separate command, with four other officers and twenty-five men. His master was Krabbé, a good navigator, brought up under Dr. Riddell at Greenwich, and a most entertaining messmate. He had already served with McClintock in the *Assistance*. Dr. Scott was a quiet, kind-hearted officer, fond of natural history. Of the two engineers, Purchase was a first-rate man who had been in the *Intrepid* in the previous commission, and Ibbets was new to the work, with some knowledge of botany. Among the *Intrepid* men, Wilkie, Salmon, and Hood belonged to McClintock's sledge

crew in the memorable journey to Melville Island. George Murray, the ice quartermaster, was an Arctic veteran of the two former expeditions, who was good alike at wielding a pen and dragging a sledge. Drover was also in the *Intrepid* before, an excellent petty officer. Among the new hands perhaps the best were George Green, the quartermaster; Cleverly, the gunner's mate; and Giddy, the boatswain's mate. M'Clintock was well pleased with his officers and crew.

The *Intrepid*'s false keel had been knocked off when she was forced up the iceberg in the previous August. A new false keel was put on, and the officers' mess place was enlarged. The large Sylvester arrangement was dispensed with, as M'Clintock intended to secure the necessary warmth by a judicious arrangement of stoves. All the provisions were excellent, and the equipment of the four vessels was completed at Woolwich by the middle of April. The *North Star*, an old 26-gun frigate, was added to the squadron, under the command of Captain Pullen, to be stationed at Beechey Island as a depôt ship. Captain Austin's expedition was represented by fifteen officers[1] and twenty-seven men, who would

[1] M'Clintock (Capt. *Intrepid*).
Sherard Osborn (Capt. *Pioneer*).
Mecham (1st Lieut. *Resolute*).
May (1st Lieut. *Assistance*).
Hamilton (3rd Lieut. *Resolute*).
Cheyne (2nd Lieut. *Assistance*).
Krabbé (Master, *Intrepid*).
M'Dougall (Master, *Resolute*).
Allard (Master, *Pioneer*).
Shellabeer (2nd Master, *North Star*).
Lewis (Clerk, *Assistance*).
Purchase (Engineer, *Intrepid*).
Harwood (Engineer, *Pioneer*).
Webb (Engineer, *Pioneer*).
Dean (Carpenter, *Resolute*).

leaven the mass and secure the permanency of a good tradition.

On April 15 the squadron dropped down the river to Greenhithe, McClintock being accompanied on board the *Intrepid* by his old commander in the *Frolic*, Captain Cospatrick Baillie Hamilton and his wife. The cabin contained a good library of books, and a glass Wardian case containing ivy, ferns, and mosses, a wild rose, buttercups and daisies. McClintock grew to be very fond of these reminders of country lanes and pleasant fields at home. On the 25th the squadron was at Stromness, the stormy Atlantic was crossed, and on May 29 they arrived at the Whale Fish Islands.

The usual battle with the ice had to be fought through Melville Bay, with this difference—that the whaling fleet continued their efforts to reach the North Water with much more perseverance

Quarter Masters :
J. Abbot.
T. Bond.
J. Organ.
M. Collins.
J. Wilkie.
G. Murray.
B. Young.

Other Petty Officers :
J. Beams.
T. Marshall.
W. Harvey.
W. Colwell.
G. Drover.
J. Salmon.

Sailmaker :
R. Hoile.

Purser's Steward :—
Blackwell.

Captain's Steward :—
James Gore.

A.B. :
H. Dellar.
W. Huggett.
W. McArthur.
J. Northouse.

Stoker :
Custance.

Marines :
Urquhart.
Green.
Hood.
Dix.
Bailey.
Harbourne.

than in 1850, and one actually got through. Two were crushed by the ice, as if they had been walnuts between nutcrackers. M'Clintock acquired great skill in handling the *Intrepid* and towing the old *Resolute* out of her difficulties. Sometimes the two tenders were lashed together, to tow the three ships. Docks had to be cut, and blasting operations carried on. On June 24 the *Resolute* received a very severe nip, heeling over 30°, and being raised 8 ft. out of the water. She was in great danger for some time, while the other vessels sought safety in docks. The Melville Bay detention lasted for forty days. The *Assistance* and *Pioneer* had been lost sight of in a fog, and on August 1 the *Intrepid* towed the *Resolute*, *North Star*, and a solitary whaler into the North Water. On the 10th they reached Beechey Island, where the *North Star* was to remain permanently. M'Clintock then went to look what had become of the *Assistance*, found her in Lancaster Sound, and towed her up to Beechey Island. The *Pioneer* arrived next day, the *Intrepid* having meanwhile examined Wellington Channel, and reported it free of obstruction as far as Cape Bowden.

This was the first time that M'Clintock had an opportunity of examining the vestiges of Franklin's winter quarters. He also went up to the top of the cliff where the cairn was, 640 ft. above the sea, and saw that, in summer, gulls and dovekeys frequented its face. He found that Franklin must have cut his way out of the harbour,

THE *RESOLUTE* NIPPED IN MELVILLE BAY

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and that the ships could not have been forced out by any pressure that could reach them.

On August 15 the two divisions parted company. The *Assistance* and *Pioneer* proceeded up Wellington Channel, and in two days they reached a harbour in 77° 52′, where they wintered, so their navigable season was soon over. Thus at length the second division was freed from any interference. Captain Kellett, with the *Resolute* and *Intrepid*, could proceed on their western route, with every soul on both ships united in one great object, and in loyalty to their chief. Kellett was delighted. McClintock declared that "he had seldom felt so supremely happy." He had a free hand, and he was resolved to surpass his great journey of 1850, and to extend discovery by sledge travelling to the utmost limit of possibility.

So the *Resolute* and *Intrepid* went onwards to Melville Island, following in the wake of Parry's *Hecla* and *Griper*, the only other vessels that had ever forced their way into that ice-bound lonely sea. The navigation was by no means easy. The poor old *Resolute* grounded on the coast of Cornwallis Island, fell over on her bilge, and was pressed upon by an ice floe. She was in some danger, but McClintock succeeded in hauling her off, and towed her past the scene of the winter quarters of the *Assistance* in her happy commission, and round the eastern bluff of Griffith Island, where the splendid cairn erected by the *Assistance* is visible for 18 miles. This monument is pos-

sessed of considerable architectural merit, and is one of the finest things of the kind in the Arctic regions. On the south side of Griffith Island there were open water and a breeze. Both vessels made sail, and high hopes were raised. But they were quickly dashed when the way was found to be closed by ice round Lowther Island.

Off this lofty limestone isle, not unlike Griffith Island, there was a weary detention of seven days. M'Clintock and Kellett climbed to its highest peaks, but derived little satisfaction from the outlook. M'Clintock noted the island's only redeeming point, its humble flora. He gathered a yellow draba, a poppy, a ranunculus, and four kinds of saxifrage—the purple *oppositifolia*, the *cernua*, *flagellaris*, and *cæspitosa*. But the delay was very irksome. In 1819, during these very same days of August, Parry with his *Hecla* and *Griper* had passed Lowther Island and sailed gaily on. At last, by retracing their steps to the eastward for about 15 miles, the *Resolute* and *Intrepid* got round a point of ice, and reached open water off Bathurst Island in a very rough sea. M'Clintock and Dr. Scott continued to dredge at every opportunity, bringing up sea anemones, shrimps, and a few shells. They kept working westward with the heavy ice pack always in the offing to the south, and enormous hummocks 30 and 40 ft. high telling of tremendous pressure. In fact, there had been a continuous ice pack all the way from Griffith Island, solid,

heavy, and impenetrable. They had passed, like Parry before them, between the ice and the land, in a lane of water always more or less narrow.

On September 1, 1852, the *Resolute* and *Intrepid* reached Melville Island. On September 1, 1819, just thirty-three years before, Parry had discovered Melville Island. No vessel had ever reached that Arctic paradise in the interval, no vessel has ever reached it since. As they proceeded along its southern coast, shooting parties were sent on shore, bringing back the carcases of many musk oxen as fresh food for the crews. But the navigable season was coming to an end. Captains Kellett and M^c^Clintock examined the Bridport Inlet of Parry and fixed upon it for their winter quarters. Dealy Island, named after a midshipman of the *Hecla*, rising to 460 ft. above the sea, is at the entrance of the inlet. A canal was cut in the ice, and the two vessels were established half a mile from the south-east side of the island, and 70 yards apart—

Lat. 74° 56′ N.
Long. 108° 48′ W.

The variation was 142° 46′, rendering the compass useless, but there was a contrivance to supply its place. The only means of steering without a compass is by knowing the true bearing of the sun. Its true bearing was calculated to every twenty minutes of apparent time, between the 70th and 80th degrees of North latitude. The

month's true bearings were painted on a board and hung abaft the mizen mast. A graduated brass circle, with eye-piece and sight-vane, was placed before the wheel, and with this instrument the angle between the sun and the ship's head was obtained. This, applied to the true bearing of the sun, gave the true course the ship was steering.

This erratic conduct of the compasses is one of the many difficulties with which the Arctic explorer has to contend, but for every difficulty he finds some contrivance to overcome it, or if he cannot find one he invents a plan of his own. Like the objectionable imps in Dr. Ede's Arctic pantomime, none of their hostile schemes, nor all put together, can find a true Arctic sailor unprepared. This is seen more especially in the development of Arctic sledge travelling. One difficulty after another, following each other in quick succession, rose up to be considered and removed. It needed the close attention and untiring perseverance of a man like M^c^Clintock, endowed with constructive and inventive talent, to bring such a system to anything approaching perfection.

During the voyage from Beechey Island the great question had occupied his thoughts in every moment of his spare time. He had fully resolved on achieving a great discovery to the north-west of Melville Island, and on autumn travelling to lay out depôts on a much more

extended scale. The autumn work was tentative in 1850. McClintock had only been away for six days. He would now be away forty days.

Parry had travelled from Winter Harbour with a cart, crossing Melville Island in June 1820, and reaching a frozen sea with land to the north-east which he took for an island. He named it after his companion, Captain Sabine, and two points of land were named Nias and Fisher, after the midshipman and surgeon who were with him. McClintock had resolved to follow in Parry's footsteps, and to establish depôts of provisions near Cape Nias, on the shore of that northern frozen sea, ready for his great journey in the spring.

Only four days after the *Intrepid* had been established in winter quarters McClintock had completed his preparations and started on his autumn journey. As the interior of the island had to be crossed, McClintock packed the provisions on two light carts. His party consisted of Dr. Scott and thirteen men, and he made for a valley, with a river bed, at the head of Bridport Inlet, whence to ascend to the higher land. When they were near the shore both carts broke through the ice, and quietly sank to the bottom. Fortunately it was very shallow, but some of the provisions were damaged. Dr. Scott went back to the *Intrepid* to make good the loss, and on his return the journey was renewed. That night the supper consisted of musk ox steak, cooked over a fire of coals gathered in the bed of the river.

There was a change from the expanse of ice floe to the wild but picturesque scenery of the interior. All were eager to see what the interior of Melville Island was like. There was a small lake at the head of the valley, with hills beyond; and on advancing farther deep ravines, partly filled with small glaciers, were crossed with much difficulty. From the glacier walls most beautiful rows of large icicles came almost to the ground. There had been a considerable ascent of 600 ft., and of course a similar descent to the shores of the northern sea first visited by Parry in June 1820, a distance of 46 miles N.N.W. from Bridport Inlet, but they had travelled 55 miles. They had often had to dig the carts out of soft snow, and sledges seemed preferable even in a journey over the land. The depôt was established on Point Nias, and the party returned to the *Intrepid*. In these journeys the great advantage of having crews of Royal Navy sailors was experienced. Whenever difficulties presented themselves, their knowledge of seamanship was a powerful auxiliary, and for downright hard dragging few could stand the fatigue these men had undergone.

After three days of rest M^c^Clintock and Dr. Scott set out again with sledges, provisioned for eighteen days, to increase the depôt. Mr. Purchase, the engineer, started with them to help for the first day. But George Drover, the captain of Dr. Scott's sledge, broke down almost immediately, and had

to return. He was a petty officer who had done excellent work in the *Intrepid's* former commission, and was one of the best men in the ship. Old Wilkie, the captain of M'Clintock's sledge in his memorable journey in 1850, was with him again, as were Salmon and Hood of the same sledge crew. When Drover fell out, Mr. Purchase gallantly volunteered to take his place, though he had come without any kit, and quite unprepared. After a most severe journey, and having succeeded in their object, the autumn travellers returned on October 25. Owing to the drift and moisture taken up in the eighteen days, the weight of the covering buffalo robe had increased from 66 lb. to 145 lb., and the sleeping bags from 6½ to 10 lb. M'Clintock had been absent 40 days, and had travelled over 260 miles. Five other autumn travelling parties had laid out depôts. Mecham and Nares had been away 25 days, travelling over 212 miles; Vesey Hamilton went over 84 miles in 16 days; De Bray and Pim in the same time covered rather less ground.

The great event of the autumn travelling was the discovery by Lieutenant Mecham of a record left by Captain M'Clure of the *Investigator*, which was deposited on Parry's sandstone rock. It was dated the previous April. The *Investigator* had wintered at Princess Royal Islands in 1850–1, at the Bay of Mercy, on the north coast of Banks Island, in 1851–2. In the spring of 1852 M'Clure had made the journey to Melville Island. He said

that if he should not again be heard of he would probably have been carried into the polar pack west of Melville Island, in which case any attempt to succour him would be to increase the evil, as any ship that entered the polar pack would inevitably be crushed. This was a very noble thing for a man in his position to have said. The *Investigator* was entering upon a third winter and would be sorely in need of help in the coming spring. Communication must of course be opened with the *Investigator* as soon as possible after the winter. This discovery made by Mecham more than justified the dispatch of the second division to Melville Island. It saved M^c^Clure and his people from the fate of Franklin.

By the end of October M^c^Clintock had completed the winter arrangements on board the *Intrepid*, securing the health and happiness of his people as he had done so thoroughly on board the *Assistance* in 1850–1. Every forenoon he took a couple of hours' walk with Captain Kellett, who was a very communicative and pleasant companion, in full sympathy with all M^c^Clintock's ideas and plans. Schools were established on board the *Intrepid*, and M^c^Clintock was as strongly impressed as ever with the necessity for keeping the men employed and amused. He had gone to some expense in purchasing conjuring tricks before leaving England, and his master, Krabbé, was unrivalled as a witty and expert showman. The *Intrepid* entertainment was called a "Soirée

Fantastique," consisting of conjuring tricks by Krabbé, a farce entitled "Pat and the Magistrate," and comic songs. A supper was afterwards given to Captain Kellett and the officers of the *Resolute*, which included a splendid plum cake, the gift of McClintock's sister Caroline. A second "Soirée Fantastique" was given on January 13.

The *Resolute* was in the able and efficient hands of Lieutenant Mecham, who could not go wrong after his experience during the happy commission of the *Assistance*, with the help of his old shipmates, Vesey Hamilton and Mr. Dean, the carpenter, who was a host in himself. With the old *Assistance's* proscenium and drop scene two successful theatrical entertainments were given, Mecham and Krabbé being the principal actors, and Mr. Dean, as before, was the unrivalled stage manager. Captain Kellett gave a grand dinner on New Year's Day, and there were other opportunities for conviviality, while a school and lectures helped to keep the minds of the men employed.

Poor Drover's illness proved serious, to be ascribed to over-exertion, but not to scurvy. He was in all respects a good man, one of the best, and it was a great sorrow to all his shipmates when he died on December 12. A grave was dug with the utmost difficulty, and by using axes; and at the funeral, on Sunday the 19th at noon, McClintock had to read the service by the light of a lanthorn in the intense cold. He felt the loss of this comrade very deeply, but was consoled with

the thought that poor Drover fell in a glorious cause, and was well prepared. M'Clintock was a religious man through life, consistently and unostentatiously, but he was always much and deeply moved at the loss of a good man long known to him. He gave the rating of first-class petty officer to another faithful comrade and friend, John Salmon, who had been with him in all his journeys in the *Enterprise* and *Assistance*, a very fine young fellow, always cheerful, and a general favourite.

M'Clintock was very busily occupied through the winter with his preparations, studying to reduce his constant weights, and looking very carefully into questions of clothing, especially footgear; by February all the travelling boots had been made. Of the extended parties M'Clintock was to explore as far as possible in a north and west direction, with Emile De Bray, the young French officer, to command his depôt-sledge. Mecham was to explore to the westward, with Nares to take out his depôt. Vesey Hamilton, it was afterwards arranged, was to take a northern route. Great and important geographical discoveries were to be made in that spring and summer of 1853. M'Clintock took his depôt officer, young De Bray, some long preparatory walks. They did 12 miles in 3 hours and 20 minutes, laden with guns and 20 lb. weight of clothes.

On March 10 Lieutenant Pim was sent to

communicate with the *Investigator* at Mercy Bay, a distance of only 160 miles. It took him twenty-eight days!—a fairly long time; while M'Clure himself, after his three winters, went over the same ground in twelve days.

By April 4 the extended parties were ready to start. M'Clintock had conceived the idea of employing small satellite sledges to explore bays or inlets, or for shooting excursions. In this way two or three men, with only blanket-bags and provisions, might be detached for ten days. His satellite sledge was 5 ft. 9 in. long, weighing 14 lb. May and Markham, in searching round Griffith Island in June 1851, had used what they called hand-barrows for the same purpose. They consisted of two tent-poles, with canvas laced to them, on which the gear was placed, and slung by belts to the shoulders. The whole weight of M'Clintock's two larger sledges, when loaded, was 2,000 lb., or 228 lb. per man on starting. His crew finally consisted of eight men. Wilkie, his old sledge-captain, was too ill to travel, and poor Hood broke down and had to be sent back. Sadly the old veteran of 1851 watched the commencement of a sledge journey in which he could no longer join. Salmon alone, of the old sledge crew of 1851, was still strong and hearty. George Green, the ice quartermaster, an intelligent man with some education, was captain of M'Clintock's sledge. Henry Giddy, the boatswain's mate, was almost equally good. The rest were three

young sailors, Kitson, Warne, and Drew, and two marines, Hiccles and Jeremiah Shaw. Two stokers, Coombes and Smithers, went as additional draggers for the first month. De Bray's sledge crew also belonged to the *Intrepid*, with Cleverly, the gunner's mate, as their captain.

Monday, April 4, 1853, was a day long to be remembered. It saw the beginning of the greatest sledge journeys on record. A flag was hoisted on the summit of Dealy Island, and the ensigns were displayed on board the ships. The sledges were drawn up in two lines with their banners displayed. McClintock's sledge was the *Star of the North*, his flag azure, a star argent, his motto, "Lead Thou us on." Mecham and Nares went away under sail, with a fair wind. McClintock, followed by De Bray, and the other sledges of Hamilton and Roche, advanced over the land to Point Nias, resolved to achieve the greatest success in the annals of Arctic discovery.

CHAPTER XII

DISCOVERY OF PRINCE PATRICK ISLAND—THE GREAT SLEDGE JOURNEY

THE sledges led by McClintock went up the ravine from Bridport Inlet and encamped near the lake, known as Polynia Lake, on higher ground. For Melville Island had again to be crossed, and before the elevated plain in the interior was reached it took the united force of all the sledge crews to drag one sledge up the steep ascents. Profound ravines had to be crossed, with the snow very soft and deep. But though cheerless and forbidding in the extreme, the scenery was grand and imposing. From April 8 to 10 a furious gale confined the travellers to their tents, the snow-drift rushing past with a hissing sound. Nor could the drift be altogether prevented from penetrating inside, and on the 11th the furs and blanket-bags were found to be very wet. When the sledges proceeded the buffalo-robe and bags were hoisted up to dry, and indeed acted as sails in passing down the ravine, between coast-hills, to the northern sea at Point Nias. Here Vesey Hamilton returned, and Roche went

on to deposit a depôt at Cape Mudge, so named by Parry, at the request of Captain Sabine, after the Director-General of Ordnance.

M^c^Clintock and De Bray proceeded along the northern coast of Melville Island to Cape Fisher, the extreme point seen by Parry, beyond which all was new. It was reached on the 19th, and good progress was made in the succeeding days. But the sledges had not escaped intact from the trying journey over the land. Out of sixty-eight rivets in the shoeing of M^c^Clintock's sledge, thirty-two were broken, while one of the runners was sprung in two places. A day was devoted to repairing the damage. It was found necessary to fish the wounded sledge, which had the effect of stiffening it, so that it did not run so easily.

In the midst of this work three musk oxen were seen at no great distance. One was shot, and the two others stood resolutely facing the sportsmen, so near that they were obliged to throw stones to keep them off. When at last they did turn tail, they galloped with great speed until they were out of sight. Next day De Bray shot a reindeer. In fact, the capture of game was so successful that the sledge crews were, for the greater part of the time, supplied with suppers of venison or musk-ox beef, varied occasionally by hares or ptarmigan. Any injury to health would not be due to the food, but to the exposure and excessively hard work. For throughout the ice was uniformly old with a very rugged surface,

MECHAM

DISCOVERY

Per mare per terram per glaciem

Mc CLINTOCK

STAR OF THE NORTH

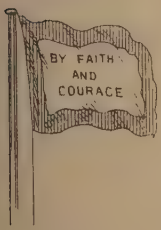
Lead thou us on

HAMILTON

HOPE

I watch for your return

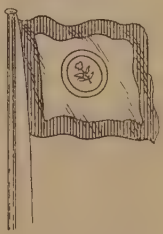
DE BRAY



HERO

By faith and courage

NARES



PERSEVERANCE

Dum spiro spero

ROCHE

BEAUTY

Mon Dieu est ma roche

SLEDGE FLAGS OF KELLETT'S EXPEDITION

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and the snow deep and soft. The most unhealthy conditions came with the summer.

On reaching the north-west point of Melville Island McClintock turned to the south, to make sure of connecting his work with that of Mecham, whose route was to the west. On May 2 he sent De Bray back from a point which received the name of Cape De Bray. The two stokers, Coombes and Smithers, returned because their services would be wanted on board. Poor Hood had quite broken down. He had been spitting blood and suffered from internal pains. He also returned. The sledges were exchanged. De Bray and his people were soon out of sight in the fog, making their way back to the ship. His orders were to take a depôt of seven days, from Point Nias to Point Fisher, and then to return to Dealy Island. He had just come in sight of Point Nias when he was recalled by the men. Coombes had left the drag-rope and, with one cry for help, fell dead. De Bray at once pitched the tent and used all the means in his power to restore animation. All efforts proved in vain. The man had died where he fell. It was a fearfully sudden death. Poor De Bray was in great difficulty. His orders were to take the depôt to Cape Fisher, but the men urged him to return at once with the body of their comrade. Thinking that it was his duty, he resolved to return on board as soon as possible. The body of Coombes was placed on the sledge, and the melancholy party came to

their journey's end on May 17. De Bray had done his work well. He had been away forty-five days in very severe weather, travelling over 380 miles. He expressed his gratitude to Captain Kellett for the confidence placed in him, and his pride at having served with such men, to whose zeal and good conduct he bore testimony.[1] He sent in several sketches with his journal.

M'Clintock continued his journey to the south. On this part of the west coast of Melville Island there are lofty mountains so cut up by deep ravines that the range appears like an assemblage of peaked hills. In front a fine cliff rose from the sea to a height of 930 ft. He looked upon this part of the coast as the most beautiful Arctic scenery he ever beheld. Here he determined to make use of the satellite sledge for the first time, to reach the farthest southern point, while Green with the sledge examined a deep inlet. M'Clintock took with him Giddy and Drew, with sleeping-bags and four days' provisions. Soon after starting he shot a deer at 190 yards, which supplied them with venison during their absence. A deep bay was reached which received the name of Mr. Purchase in recognition of that officer's voluntary service in the autumn. Leaving a note for Mecham in a cairn, the satellite rejoined

[1] Returning to his own navy in 1855. When M'Clintock was in the *Bulldog* in 1860, he heard that De Bray, with a wife and two children, was stationed at St. Pierre. De Bray became a *capitaine de frégate*, with which rank he retired, and died on March 19, 1879.

the parent sledges on May 8; Green having, during the time, taken it over 20 miles and walked 26 miles himself.

M'Clintock now proceeded to cross the strait which separates Melville Island from the great unknown land which had long been in sight to the westward, and to which he gave the name of Prince Patrick Island. On leaving the land the cheery note of a snow bunting was heard for the first time; and numerous little lemmings were seen in the strait. These small rodents are exceedingly prolific, they are great travellers, and during their migration they supply food for wolves, foxes, ravens, owls, and even gulls.

It was on May 14, 1853, that M'Clintock landed on his new discovery. The place was named Point Wilkie, after the old sledge captain of 1851, now disabled by illness. Geologically it is a place of great importance, for here there is a patch of lias formation with ammonites and other fossils. It was a dreary land enough. There was a low beach with hills of reddish sandstone in the distance about 150 ft. high. The discoverer was, however, welcomed by a herd of eleven reindeer, and succeeded in securing three. Supper that evening was a substantial meal, consisting of stewed venison and pemmican. Advancing to the south, the sledge had to be dragged over deep soft snow, and the men were quite worn out with fatigue when at length they reached the entrance of a very extensive inlet, which received the

name of Intrepid Inlet. M'Clintock again determined to go away with the satellite to explore for six days, ordering Green, with the sledge, to examine a bay which branched off from the main inlet. He took Salmon and Hiccles with him. The land round the inlet proved to be high, about 500 ft. The satellites had to sleep in the open air with the temperature from + 14° to + 18°.

It was in Intrepid Inlet that the first seal was seen. The seal-hole was 3 ft. below the ice surface, with a cavern or recess capable of holding two or three seals just above the water, the interior being coated with ice and hanging icicles. It was formed in deep drifts of snow collected among hummocks. Only one other seal was seen during the journey, and no bears.

M'Clintock went all round the head of the inlet, finding that the beach consisted of sand and clay with some coal in a ravine. The Arctic flora was fairly abundant, and he shot a hare and five ptarmigan. On the 22nd he joined the sledge again, and found that Green had explored the bay and kept a circumstantial account of what he had seen. So it was very properly named Green's Bay, and the point on the north side of its entrance was called Cape Salmon. M'Clintock then crossed over to Eglinton Island to examine its northern end; and on June 1 he commenced the journey to the extreme northern point of the new discovery. It was most fatiguing work. The snow had a crusted surface not strong enough to bear,

deep, and soft beneath. It was soft and heavy, clogging, and in places thawing. On the shore only gravel and clay with very few stones, the land low. Under these circumstances the sledge was cleared of all but eighteen days' provisions, and a depôt was formed. On June 9 a furious gale confined them to the tent, and McClintock distributed some numbers of the *True Briton* for the men to pass the time with.

The northern end of Prince Patrick Island was reached on the 11th, the land uniformly low, and McClintock went on to some islands, which he called the Polynia Islands. They consisted of coarse, sandy gravel and stones, no part more than 60 ft. high and no trace of vegetation. In the offing there was a line of very heavy pack-ice, with hummocks 35 ft. high. The most northern point reached was in 77° 43′ N. Returning to the northern extreme of Prince Patrick Island it was named Point Krabbé. The tent was pitched among sand-heaps, the land and ice being confusedly mixed together. Two miles outside, the edge of the tremendous polar pack was resting on the ground.

McClintock now resolved to send back the sledge to the depôt, and to go on with the satellite and two men, Giddy and Drew. The way was over flat sand-banks, with a continuous line of stupendous hummocks in the offing. Hills were seen, looking inland, about 150 ft. high. On June 17 the satellite party encountered a furious

gale, and could only shelter themselves under the lee of their little sledge turned up. They had no tent and slept in the open air. Still, summer was coming, and on the 19th, when McClintock turned back, six brent geese were seen and one shot. On the 21st an ivory gull was seen on her nest, with one egg. This was the first time that an egg of the ivory gull was found. The bones around showed that the bird had fed on lemmings. The travelling was now knee-deep through water and snow, with the feet intensely cold. In places there was "needle ice," like an aggregation of thermometer stems 2 to 6 in. long, in vertical columns extremely regular, like a miniature Giant's Causeway. Ice is brought into that state by rain. The summer travelling entails greater misery and discomfort than the intense cold of winter. The men called this place "Torture Cove."

On June 25 the weary satellites rejoined the parent sledge and found all well. They had been detached for eleven days. The place was named Point Giddy. On the way out McClintock had sighted land from the north coast of Melville Isle, which looked so pleasant from a distance that he called it the Emerald Isle. He now determined to cross over to it. It was terrible work. The snow was knee-deep and partially thawed, while the sledge had often to be got out of it by standing pulls. Emerald Isle, rising in gentle slopes, was reached on the 27th. It is

composed of a rich dark clay, with most of the usual Arctic flowering plants and abundant moss. On the 29th they started across the strait for Melville Island, reaching Cleverly Point, so named after the captain of De Bray's sledge. The fatiguing and exhausting work in soft snow and chilly water was beginning to tell on all the men. When they reached Point Nias on July 12, poor Hiccles, the marine, was taken ill. He had been so for some time, but would say nothing, for fear of delaying the march. At Point Nias it could no longer be concealed. For twelve hours he was in excruciating agony. His heroic fortitude and patient Christian demeanour excited the admiration of all his comrades. McClintock declared that all the trials, cares, hopes, and fears as leader of the party during a hundred days seemed as nothing compared with his anxieties as doctor for eighteen hours. At last his remedies took effect, and the poor fellow got relief. They started with Hiccles on the sledge. But the interior was so full of bogs and morasses that it was impassable. The men were more or less crippled with inflamed feet, rheumatic knees, chafed heels, and quite worn out. The sledge had to be left behind with tent and blanket bags, and spare provisions, a weight of 550 lb. covered with mackintosh. They stumbled on with knapsacks only, finally reaching the ships at noon on July 18. Their reception may be imagined.

"There was," wrote McClintock, "necessity for high physical power and strong mental resolve to endure cheerfully the necessary hardships, in order to triumph over the natural obstacles to the achievement of so great an undertaking. George Green deserved special mention for his care of the provisions, and his command of the sledge on three occasions when the leader was absent with the satellite."

The health of the party was excellent until the last fortnight.

McClintock had been away 105 days, and the sledge had gone over 1,030 geographical miles in 99 marches, at the rate of 10½ miles a day. The walking, to examine bays and inlets, amounted to 62½ geographical miles, making the whole distance 1,210 geographical or 1,408 statute miles. 768 miles of new country were discovered. The lowest temperature was —24° on April 16, the highest +51° on July 4. There were rapid changes: on May 4, —18; on May 19, +46. The number of fixed positions was 22, latitudes by meridian altitudes, and longitudes by chronometer.

This journey is by far the greatest Arctic effort that has ever been made, and ever will be made. Undoubtedly these extended sledge journeys try the endurance and pluck of the best men, especially the summer work. Of McClintock's sledge crew of 1851, two had been with him before in the *Enterprise*. They tried a third time, and broke down. Wilkie and Hood fell, as it were, mortally wounded on the battle-field. They were

much the oldest. Hoile and Dawson did not go out again. Salmon was with McClintock in all three expeditions, and stood it well; returning to England in 1854 and receiving an appointment of £70 a year in the Custom House. It took more than a year for the sledge crew of 1853 to recover entirely. Even in July of the next year Green and Giddy were much reduced and shaken, Hiccles and Warne were invalids, Shaw not what he was. McClintock, Salmon, and Drew, out of the seven, were none the worse. The utmost care is necessary in the selection of men. None failed in pluck, all game to the last; but youth and a perfectly sound constitution are essentials.

Mecham also did splendid work to the westward, his discoveries being the complement of those of McClintock and completing them. He crossed the land from the winter quarters to Liddon's Gulf, accompanied by Nares with the depôt sledge. The captain of Mecham's sledge was James Tullett,[1] an excellent man who was in the *Assistance* during the happy commission, when he was also captain of Mecham's sledge. Bailey,[2] the marine, was also in Mecham's sledge in his former journey. The other six were new

[1] Tullett afterwards served on the coast of Africa and against Chinese pirates. He was promoted to the rank of boatswain, and continued to serve until 1877, when he retired on a pension. He died on March 31, 1895.

[2] Bailey was very severely frost-bitten and broke down. He went back with Nares.

but good men. After discovering the south-western coast of Melville Island, Mecham crossed a strait and reached an island which received the name of Eglinton. Here Nares deposited the depôt and returned. Specimens of petrified wood were found. Crossing another strait, Mecham landed on what proved to be the south-east point of Prince Patrick Land. He then explored the south coast and the western coast until he was within 16 miles of McClintock's farthest point. He reported that the coast was bare of vegetation on the west side, and on the south side to the east of 122° W. There was the same heavy pack, with lines of lofty hummocks and the same innumerable small heaps of gravel mixed with old grounded ice. Only two bears were seen on the south coast. The most interesting incident was the discovery of wood. At Cape Manning, on the south coast, there was a considerable number of stems of trees, some with the bark on, 90 ft. above the sea. Mecham crossed the land from the west to the south side during the three last days of May, and found, on the east banks of a ravine, a tree protruding 8 ft. Afterwards he found several others with a circumference of 4 ft. He thought that they must have been growing *in situ*.

Mecham connected his work with McClintock's farthest south on Prince Patrick Land, and on the west coast of Melville Island, thus making these vast discoveries quite complete.

Along his route in Melville Island game was very abundant. He counted 150 head of cattle. But both M^c^Clintock and Mecham were very careful not to kill anything, unless it was actually needed for their men.[1] Mecham gave the highest praise to his sledge crew; especially extolling the care in serving out provisions of Tullett, the captain of the sledge. He also mentioned his petty officer's ingenuity, especially in repairing a broken runner of the sledge. A point on the west coast of Prince Patrick Island was named after him.

Mecham was absent from April 4 to July 6, 91 days, and went over 1,006 geographical or 1,173 statute miles at a rate of 12½ miles a day. His discoveries amounted to 785 miles.

Vesey Hamilton explored the northern extreme of Melville Island, and his journey requires notice because it further illustrates the use of M^c^Clintock's satellite sledges. He started on April 27, with a sledge and seven men, and a satellite sledge. Depôts had been laid out for him, and he was able to start light with 1,120 lb., or 160 lb. per man. The captain of Hamilton's sledge was that grand old sailor George Murray,[2] who had served in both the expeditions of Ross and Austin, and

[1] Mecham's bag was 4 musk oxen, 7 reindeer, 16 hares, 40 ptarmigan, 12 ducks and geese, 2 plover. The lemmings were innumerable.

[2] Mr. Murray afterwards served, for some years, in a responsible post in the Chatham and Dover Railway Company's packet service at Dover, where he died.

was the most brilliant contributor to the *Aurora Borealis*. Two others of the Austin expedition were with him, Robert Hoile and William Colwell. Hamilton proceeded along the western side of the Sabine Peninsula, which Parry supposed to be an island. Near the northern point he met Commander Richards of the *Assistance* on his way to Dealy Island on May 18, who told him that Sherard Osborn had only left him that night. In order to give the earliest news to the *Assistance*, Hamilton determined to overtake him with the satellite and two men, Hoile and Wilson, Murray remaining in charge of the sledge and the rest of the crew. But next day the little satellite capsized over a hummock, carrying away the poppets on one side. Leaving the men to repair damages, Hamilton pressed on alone to procure tools from Osborn, reaching him on May 21. Luckily Osborn's carpenter's mate, Sam Walker, was one of his crew. Hoile, with great fertility of resource, had made a good temporary repair in a couple of hours, and pushed on to overtake his officer. Osborn's carpenter made a capital job of it, and when the two old friends bade farewell to each other on the 28th, the satellite was as strong as ever. Hamilton returned to his party on June 3, and found that old George Murray had made an excellent leader during the ten days of his absence.

Hamilton then continued his march. Passing the extreme northern point of Melville Island,

DISCOVERIES BY THE SLEDGE PARTIES OF 1853.

he saw an island 7 miles to the north, to which he shaped a course, and found it to be 4 miles long by 1 broad. The northern part consists of a series of small peaks in latitude 76° 56′ N. The water, in small pools, was not very drinkable, having a strong sulphuric taste, like Harrogate water. A small island was visible 8 or 9 miles to the northward, which Hamilton named Markham Island, after his old messmate in the *Assistance*. On June 9, having completed his work, Hamilton commenced his return journey, reaching the ship on the 21st. He had been away 54 days, and had gone over 568 geographical or 663 statute miles. Thus were the extensive discoveries of 1853 completed.

The discovery of Prince Patrick Island forms an important landmark in the history of Arctic geography, and presents interesting problems for solution. M'Clintock had given much attention to those connected with weather and currents during the winter. M'Clure, in his record found at Winter Harbour, told of a permanent current setting on Banks Island from the east, laden with stupendous polar ice. M'Clintock had seen it off Cape Dundas, where the pack is squeezed into a channel 50 miles wide between Melville and Banks Islands. From thence to Baffin's Bay the current takes the ice to the eastward. In 1849 he was himself drifted out for 240 miles in 25 days. The American schooners, in 1850–1, were drifted out at the rate of 6 miles a day, or 1,050 miles in

nine months. These drifts pointed to that pressure from west to east which M'Clure reported on Banks Island, and which M'Clintock and Mecham discovered along the west coast of Prince Patrick Island.

The discoveries opened a new area for exploration to the westward, quite distinct from the region of the Parry Islands. In Prince Patrick Island there are no bears,[1] therefore no seals, or scarcely any.[2] No vegetation along its western coast. It forms the boundary between the Arctic paradise of Melville Island and the polar ocean without life. On its east side there are musk oxen, reindeer, and all the Arctic fauna and flora, but more scanty. On the west side there is the mighty polar pack with its line of ice hummocks grinding up on the shallow beach, with no vegetation and no life. The current from the east, so carefully considered by M'Clintock during the winter, partly explains these phenomena. Then there are Mecham's trees with the bark still on them, which he believed to have grown *in situ*. That could hardly be, yet their positions and their condition have not been satisfactorily explained.

Like all great discoveries, Prince Patrick Island points to the importance of further research. The shallow sea with its grounded ice is part of the continental shelf, and needs to be examined

[1] Only two at Cape Manning, in the extreme south.
[2] M'Clintock saw two.

as regards its width. Much depends upon that, with respect to the distribution of unknown Arctic lands. There is a vast area between Banks and Prince Patrick Islands on one side, and Siberia on the other, which has since been named the Beaufort Sea. Its examination is the great desideratum in Arctic geography to which McClintock's discoveries pointed. There are reasons for thinking that there may be islands in the Beaufort Sea, owing to a great extension of the continental shelf, and there are reasons against this hypothesis. Knowledge of the Arctic regions will remain very incomplete until this area has been discovered and explored. It is one of several geographical undertakings that call for attention, and one of the most important. But no one has been near Melville Island since 1854, much less Prince Patrick Island. The great sledge-travelling achievements of McClintock and Mecham stand alone and unapproached.

CHAPTER XIII

ABANDONMENT OF THE ARCTIC SHIPS—THE CLUE FOUND AT LAST

THE *Investigator's* officers and crew had certainly been rescued from the fate of Franklin by Mecham's discovery of the record on the Parry sandstone. Captain McClure and Mr. Court, the master, arrived from Mercy Bay to discuss the situation with Captain Kellett. It was clearly impossible that the *Investigator* should ever move eastward from Mercy Bay, so, after a medical survey of the crew, the order was given for her abandonment. Lieutenant Creswell, with twenty-six officers and men, were sent down to the *North Star* to return home by the first opportunity. This left thirty-two to receive on board the *Resolute* and *Intrepid*. They all arrived on June 17. Meanwhile the *North Star* party started on May 7, escorted by "Paddy" Roche. The party arrived safely after twenty-two days of sledging. The *Prince Albert* had left five dogs at Beechey Island. With these, and one man named Alexander Thompson, Roche started on his return with 120 lb. of bear meat for the dogs, and a total weight of 360 lb. Thompson had had pre-

vious experience with dogs in Penny's expedition. Leaving the *North Star* on June 4, he arrived alongside the *Resolute* on the 18th, a distance of 300 miles in 14 days at the rate of 21 miles a day over very bad ground, with water making on the floe.

M^c^Clintock, on his return, was delighted to find Captain M^c^Clure and Mr. Court, his old shipmates on board the *Enterprise*. Four cabins had been built in the *Intrepid* for officers, and accommodation had been found for her share of the *Investigator's* men. Mindful of the continued absence of the *Enterprise* and Captain Collinson, a large house was built, 40 ft. long and 14 wide, the sides of stone, and the roof of wood covered with painted canvas. In it was neatly arranged a depôt of seven months' provisions for sixty men. A cairn 14 ft. high, 14 ft. diameter at the base, tapering to 7 ft., was built on the summit of Dealy Island, 42 tons of stone being used for it.

There were races and wrestling matches on August 8. Among the officers Nares came in first, Roche second. Captain Kellett raced Pim with M^c^Clintock on his back, and beat him easily. Salmon was the best runner among all the men, and won the 300 yards race. He was also the champion at the wrestling.

Ten days afterwards the ice broke up, and the two vessels were drifted out of Bridport Inlet. They were stopped by the ice off Point Griffiths, the south-eastern end of Melville Island, and on August 22 they were beset. This was a close

season. Progress to the eastward was found impossible, and by November 11 the drift had ceased, and the two ships were fixed in winter quarters 26 miles S.W. of Cape Cockburn, on Bathurst Island. They had to make up their minds for a second, and the *Investigators* for a fourth winter.

M'Clintock's great anxiety was for his two old sledge comrades, Wilkie and Hood. He converted the after-steerage into a very snug place for them. One night M'Clure's Eskimo dog Bess [1] made an extraordinary leap over the ship's side, opened two doors, got into the steerage, and jumped into Hood's cot. The poor fellow had not the strength to turn her out, and when his chum came and did so, Hood declared that it was a wolf and not a dog, which was not very far from the truth.

Every possible arrangement was made for the comfort of the men on the lower deck, and the temperature was kept tolerable, although it was the coldest November on record. M'Clintock was also mindful of the amusement of the men. On sounding them he found that they were not much inclined for school, but would prefer comic representations. Mr. Krabbé was universally acknowledged to be the Buckstone of the Arctic regions. He was taken into counsel, and the "Royal Intrepid Saloon" was opened on December 22. The well-known farce of "Box and

[1] Bess died in March, after a series of fits.

Sir Francis Leopold McClintock, K.C.B.

Cox" was acted, and Krabbé performed his conjuring tricks with inimitable skill and drollery. Among the delighted audience was an old Moravian missionary named Mr. Miertsching, who had been Eskimo interpreter on board the *Investigator*. Every time that Krabbé announced a wonderful feat of magic he was about to perform, old Miertsching exclaimed, "Ah no! that is impossible; it cannot, cannot be." There was also one theatrical entertainment on board the *Resolute*, when the men attempted "The Taming of the Shrew," and the chief actors among the officers were Mecham and Krabbé in "The Two Bonny-Castles," very ably supported by Captain M'Clure as old Smuggins the Lawyer. On Christmas Day M'Clintock and M'Clure went round the lower deck of the *Intrepid* and found the men in the highest spirits. Nothing could be more gratifying to them both. By the end of the year Vesey Hamilton had established an electric telegraph between the *Resolute* and *Intrepid*, the wire being supported on boat-oars about thirty yards apart. He also gave instruction in the working and reading off to as many as wished to learn. It went from Kellett's to M'Clintock's cabins, and was an immense convenience, especially during gales of wind.

On January 2 M'Clintock had to bid a last farewell to poor Hood, who made his will, leaving everything to his nearest relation, a sister, except £5 and his clothes to his chum, Ebenezer Shaw,

who had tenderly nursed him throughout his illness. Hood travelled to Fury Beach for 40 days in 1849, he was with McClintock in his journey of 80 days in 1851, again in the autumn of 1852, and in 1853, until his health failed. Old Wilkie did not long survive him, dying on February 3, 1854.

It became necessary to report the position to Sir Edward Belcher as early as possible. On March 4 Hamilton was dispatched with Roche and Court, two men and nine dogs. On the 5th Roche returned, reporting the sledge disabled. On the 6th, repairs having been effected, they started again. On the 7th Hamilton returned alone, streaming with perspiration, although the thermometer was —40. He had hurried back with the news that Paddy Roche had received a bullet through his thigh from a loaded gun on the sledge. Nares was substituted for Roche, and at last they really started on March 8. Hamilton reached the *North Star* in twelve days, and found that the *Assistance* and *Pioneer* had attempted to come down Wellington Channel, but had been stopped by the ice, and had wintered 52 miles north of Beechey Island, in an exposed position off Cape Osborn. Hamilton accomplished the distance in twenty-six hours. He received dispatches from Sir Edward Belcher to Captain Kellett, and left the *Assistance* on April 3, and the *North Star* on the 5th. He had Alexander Thompson with him, and accomplished the journey

to the *Resolute* in 6½ marches at the rate of 25 geographical miles daily. Dogs were found to be useful in keeping up communications on fairly smooth ice. What Hamilton brought was an order to abandon the ships, but it was not explicit, and it assumed that Captain Kellett wished to take such a step.

While Hamilton was away, Mecham and Krabbé had been dispatched on two long journeys. Mecham was to go to the Prince of Wales Strait and seek for news of Collinson. Krabbé was to visit the Bay of Mercy, and report on the condition of the *Investigator*. Tullett was again with Mecham as captain of his sledge, while Krabbé had Giddy in that capacity, who had done so well with M'Clintock in the previous year. The two sledges started together on April 3, 1854. On the 10th and 11th the rest of the crew of the *Investigator* set out for the *North Star*.

M'Clintock's plan for the spring of 1854 was to explore the whole unknown south coast from Prince of Wales Strait to Cape Walker, a brilliant conception which he was quite able to carry out before the thaw began, as he would have started much earlier than in 1853. But the conduct of Sir Edward Belcher destroyed all these plans. Captain Kellett sent for M'Clintock to read over Belcher's orders and to give his opinion as to their meaning. They were very long, and some paragraphs contradicted others. It was implied that

the ships were to be abandoned, and Sir Edward Belcher assumed that Captain Kellett intended to abandon them. It was a cunning trap to place Kellett in the same position as himself.

Now Captain Kellett, in the letter taken by Hamilton, had distinctly told Sir Edward Belcher that this was not his intention. He saw nothing in the Admiralty Instructions to bear him out in abandoning the ships, and there was no reason nor necessity for such a disastrous step. He, therefore, decided that M'Clintock should proceed at once to the *Assistance*, and state to Sir Edward the positions of the ships, Captain Kellett's opinion of their prospects, his arrangements for remaining in them, and his conviction that it was his duty to do so. M'Clintock was to add that the ships would probably get out this season, and if not, they would certainly be drifted eastward and get out next season.[1] He was to ask for distinct and final orders.

M'Clintock started on the 13th with the dogs, reaching the *North Star* at Beechey Island on the 18th, where he slept. Next day he covered the distance of 52 miles to the *Assistance* in twenty-four hours, arriving at 9.30 A.M. on the 30th, when he presented his dispatches to Sir Edward Belcher, who was looking old and debilitated from want of fresh air and exercise. The ship was still housed in for winter, and

[1] In point of fact the *Resolute* did drift out safely, and was met with in Davis Strait, in about 67° N. on September 10, 1855.

the strong daylight carefully excluded. During several hours McClintock used every argument he could think of to induce Sir Edward Belcher not to order the abandonment of all the ships; but he could not shake his determination. He was resolved to go home himself and finally to stop the Franklin search, leaving Collinson to his fate. He would leave no one behind, but crowd every soul into the *North Star*, and return to England. The people in the *Assistance* had passed a miserable time, and the two vessels presented a most forlorn appearance, still housed in, with lower yards and topmasts struck. All Her Majesty's Arctic ships, which had done such glorious work, were to be abandoned to their fate. Belcher would not even call them ships. His name for them was "purchased masses of timber." He gave distinct and positive orders, this time, for the *Resolute* and *Intrepid* to be abandoned.

McClintock left the *Assistance*, with the dispatch containing these disgraceful orders, on May 21. He left the *North Star* on the 23rd, and completed his journey on the 28th. The whole journey, there and back, occupied 15 days, the distance being 460 geographical miles, or 31 miles each march. The most rapid of Baron Wrangell's journeys, on the coast of Siberia, was an average of 29 miles for 22 days. McClintock had one man, Alexander Thompson, and twelve dogs. The work was severe. McClintock and Thompson pitched the tent,

packed the sledge, and took it in turn to run before it. Thompson did the cooking. When the dogs were fresh, the ice very good, and there was a sledge track for the dogs to follow, M'Clintock and Thompson occasionally got on the sledge. But as a rule both had to walk or run. They had two meals a day, with ten hours between them, the dogs feeding on bear flesh. It was a remarkable journey with dogs, and gave M'Clintock an insight into their advantages, and a knowledge of the conditions under which they may be best used.

M'Clintock had grown to be very fond of the "dear old *Intrepid*," and was glad to return to her, though only for a short time. Obliged to obey orders, both Kellett and M'Clintock were determined to leave their ships in all respects efficient and ready for re-occupation. The men were allowed to take 30 lb. weight of their effects each, and the officers 45 lb. M'Clintock had to leave behind an extensive library, his fine collection of natural history, his dried Arctic flora collected for him by Mr. Ibbets the engineer, and his important collection of fossils. All these things had a strong hold on his affections. The sick started first under the direction of Alexander Thompson, who had been rated a first-class petty officer for his active zeal and efficiency in managing the dogs. On June 8 Vesey Hamilton started with one man and five dogs to Dealy Island, to leave information for Mecham and Krabbé respecting the abandon-

ment of the ships, and the positions of depôts, with orders for all to return direct to Beechey Island. He found the greatest difficulty in obtaining food for the dogs.

On June 13 the dismal preparations for abandoning the ships were almost complete. The *Intrepid* was in all respects thoroughly efficient with 80 tons of coal, 18 months' stores, and 13 months' provisions for 20 persons. On Sunday, the 14th, all the officers dined together in the gun-room of the *Resolute*. In all 42 persons started on the 15th with feelings of mingled indignation and sorrow. The *Intrepid* sledge was manned by ten men: Mr. Purchase, Mr. Ibbets, George Murray, John Cleverly, John Salmon, Alex Johnston (*steward*), Henry Morgan, R.M., and three men from the *Resolute*. The rest of the *Intrepids* were away with Krabbé, or had gone on before.

There was a halt while the men gave three cheers as an expression of sympathy for their wooden homes, wherein they had spent two very happy years ;[1] and then commenced their journey to Beechey Island. On the 28th they arrived on board the *North Star*. She was like a crowded emigrant ship. A house had been built on Beechey Island by Captain Pullen. It was of wood covered with tarred canvas, had one door

[1] As regards the *Resolute*, Captain Kellett's sympathy and generous reliance on his officers helped to secure that happiness. He was afterwards Commodore in the West Indies, Admiral Superintendent of Malta Dockyard, and Commander-in-Chief on the China Station. He died in March 1875, in his seventieth year.

and three small windows, the area 30 ft. by 24. Captains Kellett, McClure, Pullen, and McClintock messed together on board the *North Star*.

On June 12 Mecham arrived from his famous journey. Leaving the *Resolute* on April 3, in company with Krabbé, he arrived at Dealy Island on the 12th. Advancing to Cape Providence, they entered the first range of heavy hummocks, and travelled through it for 5 miles. They then came to old floes, and as they approached Banks Island they were constantly entangled, during dense fogs, among intricate hummocks and deep snow. On reaching the land, Krabbé parted company for the Bay of Mercy. Mecham proceeded down Prince of Wales Strait and arrived at Princess Royal Islands on May 4. There he found a document left by Collinson, stating that further information respecting the movements of the *Enterprise* would be found on an islet in 72° 36′ N. On the 9th Mecham arrived at this island, and after several hours' digging found the records. He then began the return journey, arriving at Dealy Island on the 27th, and on the 30th he overtook Krabbé's party. He overtook Hamilton off Cape Capel. On June 11 all three parties reached Cape Hotham. In 70 days Mecham had travelled over 1,157 geographical or 1,336 statute miles, the average rate outwards being 18½ (16) miles a day, and on the return journey 23½ (20½) miles. Krabbé had found the *Investigator* heeling 10° to starboard,

and leaking. Her orlops were full of ice. He was five days landing all available provisions and stores. The ship was in eleven fathoms of water. If she was not driven on shore that summer, which was very improbable, she must have sunk.

M'Clintock wrote: "Mecham's journey is a most splendid feat, topping all previous ones in speed, as well as in distance." This great success was due to the adoption of M'Clintock's methods.

Hamilton was ordered up to take command of the *Pioneer* on July 17, as Sherard Osborn had been put under arrest by Belcher, and both the lieutenants of the *Assistance* had been ordered out of the ship and sent down to the *North Star*. "The leopard cannot change his spots," but the real fault was with the Admiralty for making such an appointment.

On July 17 the cause of all the mischief arrived at Beechey Island, sitting in his boat, which was put on a sledge and dragged by ten men. He took up his abode, with his steward, in the house on shore. After some weeks his heart seems to have failed him for a time. He had thoughts of leaving men on board the *Assistance*, with M'Clintock in command, who had orders to call for volunteers and prepare for the journey. Mr. Court, Dr. Scott, and young Jenkins, a mate in the *North Star*, at once volunteered. So they all started with M'Clintock, in attendance on Sir Edward Belcher, who was pulled and dragged back to

the *Assistance*, his medical adviser accompanying him. The men had to drag him, in his boat, over eight miles of ice. They all arrived on August 23; Sir Edward complaining much of the way he had been jolted on the sledge. M^c^Clintock established himself with Hamilton on board the *Pioneer*. But next day the bad fit had returned. No one was to be allowed to remain, and orders were given to abandon the ships; the evil deed being perpetrated on the 25th. So the great man had to be dragged back again, and it ended for the volunteers in bitter disappointment and disgust.

All would have been crowded on board the *North Star* if the *Phœnix* and *Talbot* had not arrived in the nick of time, bringing the news that war had broken out with Russia. It is needless to dwell longer on the wretched story of the abandonment of the ships, against which M^c^Clintock protested so strongly. Here the mischief ended. No harm came of Sir Edward Belcher's treatment of his officers. Sherard Osborn was advised at the Admiralty not to apply for a court-martial, but his conduct was approved. He was appointed to the *Vesuvius*, did important service in the Sea of Azof, and received his promotion. The reply to Sir Edward Belcher's report against May, his first lieutenant, was May's immediate promotion. At his court-martial Belcher secured an acquittal on the ground of the wide discretion given to him by

the Admiralty. But his sword was returned to him in a silence more eloquent than words.[1]

McClintock returned to England on board the *North Star*. He had heard of his mother's death,[2] to whom he was fondly attached, at the time when he was ordered to abandon the *Intrepid*. It was a sad home-coming, but on October 21, 1854, he was promoted to the rank of post captain, a fitting reward for his great services.

Frederick Mecham was promoted to the rank of commander on the same day. Mecham was second only to McClintock as a sledge traveller. A thorough sailor and navigator, a good officer, and an excellent messmate, Mecham was endowed with indomitable pluck and the gift of communicating his enthusiasm to those who served under him. With a strict sense of duty he was also foremost in the work of amusing the men, which is so important in Arctic service. He was accomplished as an artist, a good actor, and well informed. His consideration for others and his charming manner endeared him alike to officers and men, and his sledge crew would do anything for him. This is the secret of the success of his great journey in 1853, and of his still more wonderful journey in 1854. Mecham was appointed to the command of the *Vixen* on the Pacific Station,

[1] Sir E. Belcher was never employed again. He was fifty-five years of age in 1854. He died on March 18, 1877, aged seventy-eight.

[2] She died on January 29, 1854.

a very smart and a very happy ship. But he died of bronchitis at Honolulu on February 16, 1858, at the early age of twenty-nine, sincerely mourned by many friends. His death was a great loss to the service.

The fate of Franklin still remained unknown. Public attention had been turned to the Russian war and other events of interest, and the Government could safely let the question drop. On March 13, 1854, the Lords of the Admiralty had removed the names of Sir John Franklin and his officers from the Navy List very quietly, but not without a protest from Lady Franklin. It all seemed to be very hopeless, yet there was some glimmering of light. Dr. King had never ceased to point in the right direction. In a letter to Lady Franklin, written in the winter of 1854, Sherard Osborn expressed a hope that one day he might take a ship by the route between Capes Bunny and Walker, "the true and easiest north-west passage." Still he could not yet understand that Franklin would himself have taken the route with such recommendations. But interest was turned in another direction, and M^c^Clintock had been unceasing, though unsuccessful, in his efforts to get employment during the war.[1] He was told that he had earned a time for rest.

Suddenly attention was turned to the fate of Franklin, and Dr. King was proved to have been

[1] War was declared on March 28, 1854; peace on March 30, 1856.

right. Dr. Rae, a factor of the Hudson's Bay Company, made a report dated at Repulse Bay on July 19, 1854, that, during a journey to survey the west coast of Boothia, he met some Eskimos in Pelly Bay. They said that white men had perished for want of food somewhere to the westward, near a great river. Some years ago they saw about thirty travelling southward over the ice, and dragging a boat. Later the bodies of several men were found on an island near the mouth of a great river, supposed to be Montreal Island and the Great Fish River. Several articles belonging to the officers of the Franklin expedition were obtained from the Eskimos.[1] On the receipt of this news the Government requested the Hudson's Bay Company to send a trader down the Great Fish River to the island at its mouth, to verify the report. A Mr. Anderson was sent and reached Montreal Island, where he found some fragments of a boat and a few articles.[2] He then returned, for he had not been given the means of going any farther, and he had no Eskimo interpreter.

The Admiralty thought this was enough. They

[1] Sir John Franklin's star of the Hanoverian Order, and nine pieces of plate belonging to Franklin, Crozier, Goodsir, Peddie, McDonald, Macbean, and Thomas, besides other articles unmarked.

[2] Ash oars, pieces of mahogany and other wood, copper and iron boilers, tin soup tureen, a letter-nip, chain hooks, chisel, shovel, bar of iron, rope, bunting, shavings, bits of wood, on one the word *Terror* cut. A number of sticks strung together, on one the name of Dr. Stanley (surgeon, *Erebus*) cut.

did not consider that it was their duty and the duty of the nation to complete the search, now that a clue had been found by which the right direction could be taken with certainty. The leading men of science in London, whose signatures were headed by the revered name of Sir Roderick Murchison, thought otherwise. They therefore addressed a memorial direct to the Prime Minister on June 5, 1856. They impressed upon him the urgency of sending out an expedition to satisfy the honour of the country, and clear up a mystery which had excited the sympathy of the civilised world, and earnestly requested him to sanction such an undertaking without delay. They referred to the conduct of the French Government when a clue reached them to the fate of La Pérouse ; and concluded by earnestly praying that this sacred duty might not be left to foreigners or to the noble-minded widow of Sir John Franklin. She herself also petitioned the Prime Minister, representing that these 135 naval men had laid down their lives, after sufferings of unexampled severity, in the service of their country, as truly as if they had perished in action.

"Surely," she urged, "I may plead for such men that the bones of the dead be sought for, that their records be unearthed, that their last written words be saved from destruction. It is a sacred mission, and this final and exhaustive search is all I ask."

The credit and honour of the country were at stake.

The reply was a cold refusal. Then Lady Franklin came forward herself to fulfil the duty; and McClintock entered upon the completion of his long and zealous efforts by accepting the mission which was to give the crown to his Arctic achievements.

CHAPTER XIV

THE VOYAGE OF THE "FOX"

Non patria, non Imperator, sed Conjux

AT length the clue had been found. For ten long years almost interminable search had been made over thousands of miles of frozen coast, by men who gladly faced danger in such a cause. But now there was a clue. The relics found among the Eskimos in Pelly Bay formed a clue which pointed straight in the right direction, straight in the direction to which Dr. King had been pointing during all these years, straight in the direction which the Admiralty had persistently ignored.

Surely the Government would not hesitate! It was not only a question of ascertaining the fate of Franklin, though this was quite sufficient in itself. There was the possibility, faint it is true, but believed in by many, of rescuing some survivors who might have lived on among the Eskimos. There was the duty of attempting to recover the records of the lost expedition, and of thus making available, for science and the world in general, the discoveries in achieving which our

LADY FRANKLIN

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gallant countrymen had laid down their lives. The honour of the country demanded a completion of the search. So urged Lady Franklin. So thought most people. So petitioned the men of science throughout the kingdom, and not only the men of science. The cry came from other good men and true. Foremost came the promise of support from Sir Thomas D. Acland, then those from Mr. Ashurst Majendie, from Lord Ellesmere, from Sir Arthur Elton, from the great Irish lawyers Napier and Whiteside, and from others whose voices were raised, not for science, simply for the honour and credit of their country. But the delay in deciding was long, and caused doubt. It was whispered that objections were being raised to the expense, and to lives being risked on such a quest. The turning away from a plain duty could not at first be believed. Those who were incredulous little knew the men with whom they had to do. It is true that Lord Palmerston set aside the objections on the ground of expense or risk as of no weight, and was favourably disposed. So was his venerable colleague, Lord Lansdowne. But the First Lord of the Admiralty, Sir Charles Wood, and the First Sea Lord, Sir Maurice Berkeley, were immovable. No argument could touch their stubborn obstinacy. By sheer pertinacity they wearied out the rest of the ministers and gained their point. The pretence of expense was too absurd even for them. The Government refused

to complete the search on the ground that it would risk men's lives!

Then, without any hesitation, Lady Franklin came forward and declared that if the sacred duty was neglected by the Government, she would undertake all the expense for the love of her brave husband's memory, for the love of what was due to his gallant companions, for the love of her country's credit. She was ready to incur an expenditure to the amount of £20,000. She purchased the *Fox*, a screw yacht of 177 tons, and on April 18, 1857, she offered the command of her expedition to Captain M'Clintock, which he at once accepted.

Since his return M'Clintock had exerted every effort to obtain active employment during the war. He was a very junior captain, it is true, but his services were of no ordinary kind. He had made earnest applications to Sir James Graham, and Captain Baillie Hamilton, the Permanent Secretary to the Admiralty, and brother of M'Clintock's old commander in the *Frolic*, had promised his help. In February 1855 there was a change of Ministry. But Sir Maurice Berkeley remained as First Sea Lord. Some special "floating batteries," for service against the Russians in the Crimean War, were about to be commissioned, and M'Clintock tried hard to get appointed to one of them. Henry Eden, a junior lord, promised to state the high opinion he entertained of M'Clintock's professional ability. The ap-

pointments rested with Sir Charles Wood, the new First Lord, and Sir Maurice Berkeley. M'Clintock was told that a memorandum had been made of his desire for active employment. But his utmost efforts failed to move the matter a stage further. During this time he was studying at the Royal Naval College at Portsmouth.

It had been easier for Sherard Osborn to get employment, as he was still a commander. Sir Robert M'Clure had handed over all his journals and papers to Osborn, and entrusted to him the preparation of a narrative of the voyage of the *Investigator*. During a short interval of rest he completed this task with rare ability, but the Preface is dated April, 1856, on board H.M.S. *Medusa*, in the Sea of Azoff. A second edition was called for within the year, when Osborn added a new chapter on Arctic zoology, M'Clintock furnishing his friend with numerous and valuable observations on the fauna of the Parry Islands, which were embodied in this interesting chapter. By the end of 1856 Osborn had come home, and was able to devote his energies to assisting Lady Franklin in her efforts to induce the Government to dispatch an expedition. Captain Collinson, who had returned safely in the *Enterprise*, and Captain Rochfort Maguire, who had come home from commanding the *Plover*, also devoted their time and energies to Lady Franklin's service. M'Clintock read papers at meetings of the Royal

Dublin Society on his Arctic travelling experiences on January 25 and May 27, 1856. He had been frequently consulted by Lady Franklin since his return, and especially since the discovery of the relics by Dr. Rae.

On April 25, 1857, he left Dublin, and went to London for ten days. Lady Franklin had unbounded confidence in her commander, and gave him an absolutely free hand. He found that Lord Wrottesley, President of the Royal Society, and Sir Roderick Murchison, the President of the Geographical Society, were ready to assist him in every way in their power, and to receive him with open arms. His old captains were also anxious to assist. Sir James Ross and Captain Bird came up to London to be with him, and he went to dine several times with Captain Austin, who was then Superintendent of Deptford Dockyard. Upwards of £2,800 had been subscribed to the expedition by well-wishers, including the families of six of Franklin's officers,[1] and thirteen comrades of McClintock in the search expeditions.[2] During his stay in London he was entertained by the great scientific societies and their presidents; but his most pleasant evening must have been that spent with two lieutenants of his first ship, the old *Samarang*, his cousin McClintock Bunbury and Captain Smyth, who first set him on his

[1] Franklin, Fitzjames, Fairholme, Hodgson, Hornby, Hartnell.

[2] Ross, Bird, Austin, Ommanney, Kellett, Collinson, Maguire, Aldrich, Creswell, Allen, Trollope, Lyall, Clements Markham.

LIEUTENANT HOBSON

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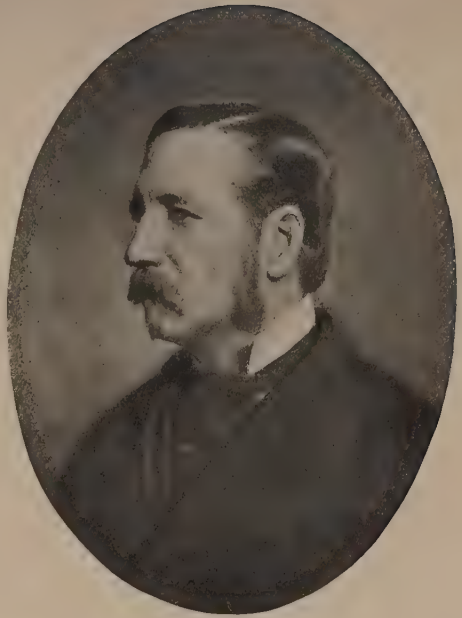

SIR ALLEN YOUNG, C.B., C.V.O.

Arctic career by introducing him to Sir James Ross in 1848.

His leave of absence was granted for eighteen months by the Admiralty, to whom he applied for leave "to complete the Franklin search," but difficulties were raised when M'Clintock asked for the officers he needed. Bob Aldrich had offered to go with him as second; Lieutenant Pym, who was in the *Assistance*; Lieutenant Nares, who was in the *Resolute*; Lieutenant Hobson, who was in the *Plover*, were volunteers, as well as a mate named Grey, who was very strongly recommended by Captain Maguire. Besides these officers numbers of M'Clintock's old shipmates volunteered, including John Salmon, who had been with him in all his journeys, but it was found that this veteran traveller's health was not what it had been. Tullett, the captain of all Mecham's sledges, volunteered, but was not allowed to go by the Admiralty. M'Clintock applied for his old shipmate Purchase, as engineer, but was refused. The application for the services of young Grey also met with refusal, though M'Clintock asked twice, and even said that he would sooner part with the mainmast of the *Fox* than lose Grey's services. The whole number of souls on board was to be twenty-four, and of these as many as fifteen had served in one or other of the Arctic search expeditions. M'Clintock finally obtained the services of Lieutenant Hobson as his second, who, being on half-pay, was allowed to go. A

young officer of the mercantile marine offered his services through a friend, Mr. Eyre, the great Australian traveller. This was Captain Allen Young,[1] now Sir Allen Young, C.B., C.V.O., who had already commanded two large steamers, one a trooper in the Black Sea. Lady Franklin said that he was active, energetic, full of zeal for the cause, and a thorough seaman. He not only agreed to come as master of the *Fox*, but also subscribed £500 to the expedition. Dr. David Walker, recommended by M'Clintock's brother, came as surgeon and naturalist, and Mr. Brand entered as engineer. A very important matter was to secure a good Eskimo interpreter. Through the intervention of Sir Roderick Murchison, who made an urgent application to Admiral Irminger of Copenhagen, Carl Petersen's services were secured. He was a Dane, already well known to M'Clintock when he was with Captain Penny. When Petersen was asked whether he would go, his answer was, "M'Clintock I know. With him will I serve." Petersen was not only an excellent interpreter and dog-driver, he was also an experienced pilot for the Greenland seas, full of Arctic lore, a most amiable man and a very interesting and charming companion. His appointment completed the list of six officers. The men were nearly all excellent and full of zeal. Old Harvey, the chief petty officer, had been boat-

[1] Allen Young took Governor Eyre and his family home from Melbourne when in command of the *Marlborough* Indiaman.

DR. DAVID WALKER

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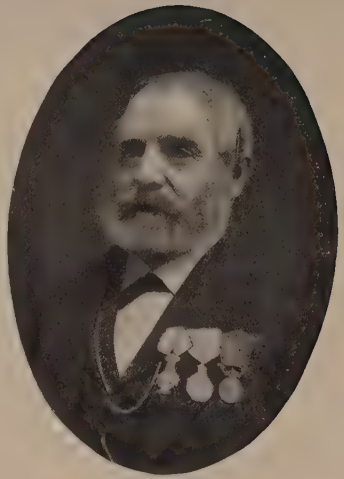

CARL PETERSEN

swain's mate in the *Resolute* in 1850–1, and in the *North Star* in 1852–4. He had a darker complexion than the sun alone could account for. He was a thorough seaman and a first-rate traveller. In writing a letter of regret to Harvey at not being able to go with the expedition, poor Salmon said:

"You are in for success this time, for you have got the captain that will not come back before he finishes the work he goes out to do. I wish you and all old shipmates good health and success in your undertaking."

On May 6, 1857, M^c^Clintock went to Aberdeen. The *Fox* was a screw yacht built by Messrs. Hall & Co. of Aberdeen for Sir Richard Sutton, but she had only been one cruise to Norway when she was sold to Lady Franklin for £2,000. Messrs. Hall now strengthened and re-fitted her for Arctic service. M^c^Clintock found more than a hundred men at work on her, and was told that she would be launched off the slip on about the 20th. She was too small to have much force in working her way through ice, but she had a very sharp bow which was well strengthened with iron plates. M^c^Clintock returned to London on the 11th, and found that the Admiralty, though very obstructive as regards leave to officers or men, was inclined to be liberal in granting any stores or provisions that could be spared at Chatham or Deptford. It was fortunate that such a warm friend as Captain Austin was in charge at Dept-

ford. Pemmican (6,682 lb.), medicines, chronometers, instruments, charts, Arctic clothing, ice gear of all kinds were forwarded to Aberdeen, while the Board of Ordnance supplied arms, ammunition, and blasting powder. The Council of the Royal Society voted £50 for magnetic instruments. Still the resources were limited as compared to a Government expedition, and McClintock felt that "the less the means, the more arduous must be the achievement; the greater the risk, the more glorious would be the success, the more honourable even the defeat, if defeat awaited us."

On May 25 McClintock attended the anniversary meeting of the Geographical Society, and went to the dinner with Sir Roderick Murchison in the chair, when he had to make a speech and return thanks for the toast of his health and success to the expedition. He paid a visit to Lord Wrottesley in the country, and on the 27th was with Captain Austin at Deptford, who was dispatching the stores and provisions to Aberdeen. Before leaving London he dined with Captain Washington, the former Secretary of the Geographical Society, and then Hydrographer, where he met the two great African travellers, Dr. Livingstone and Dr. Barth. This meeting is one of peculiar import. Both took a great interest in the expedition, and Dr. Barth showed it by sending a handsome subscription. McClintock was elected a member of the Harwich Yacht Club, under whose flag the

THE *FOX*

Fox sailed, of the Victoria Yacht Club, and of the Cowes Royal Yacht squadron.

On May 21 he returned to Aberdeen and found the *Fox* well advanced. For the next fortnight he was busily superintending the work, assisted by Lieutenant Hobson, who had joined early in June. Lady Franklin was anxious that Captain M'Clintock should be presented on taking command of her expedition. After what had passed, it was out of the question that the First Lord, Sir Charles Wood, should present him. It was, therefore, arranged that Lord Wrottesley should do so. He came up for the levée on June 18, and was presented by the President of the Royal Society "on taking command of Lady Franklin's expedition to complete the Arctic search." Next day he returned to Aberdeen, and on the 22nd Lady Franklin, her niece Miss Cracroft, Captain Maguire, and Allen Young arrived, followed next day by Carl Petersen from Copenhagen, and by M'Clintock's brother Alfred.[1] On the 26th they all dined with Lady Franklin. Next day M'Clintock had a long talk with her about her wishes and the voyage. She set apart £7,000 to defray future liabilities, the whole cost of the expedition having been £10,412, including £3,888 for wages. She also signed a deed of indemnity to free M'Clintock from all expenses and liabilities, and

[1] Sherard Osborn had gone to China in command of the *Furious*. He had been promoted to the rank of captain in 1855, and created a C.B.

wished to make over to him the *Fox* and all her equipment, telling him that she meant it, and that nothing would ever induce her to take it back again. But he firmly declined to receive such a present. M^c^Clintock and Allen Young would not accept any remuneration. The self-devotion, remarkable ability, and untiring zeal of this illustrious lady are only equalled by the generous confidence she placed in those whom she knew to be worthy of such trust.

There was a last luncheon on board the *Fox* on June 30, and Lady Franklin was much affected when she left the ship with Captain Maguire,[1] warmly cheered by the men.

On July 1 the *Fox* was well on her way to Greenland, passing Duncansby Head at midnight. M^c^Clintock, and indeed every officer and man on board, sailed with the impression that to the commander of the expedition was entrusted a great national duty. The "Narrative of the Discovery of the Fate of Franklin and his Companions" is a work so well known and has passed through so many editions that it is only necessary, in a biography of its author, to touch upon some of the salient points, illustrative of his character, connected with the famous voyage of the *Fox*.

[1] Captain Maguire had been severely wounded on the head at the capture of *Sidon* in 1840, and he never quite recovered from it. He was first lieutenant of the *Herald* with Captain Kellett, 1845–51, and commander of the *Plover* during her two winters at Cape Barrow, 1852–4. Afterwards commodore on the Australian station. He died at Haslar in 1867. C.B., F.R.G.S.

The first episode in this tale of derring do is the breaking through the East Greenland ice to save a comrade's life. One Michael Lewis had shipped as cook, a very fine-looking man, aged twenty-nine. On the voyage across the Atlantic it was found that Lewis was spitting blood. His lungs were affected, and the only chance of saving his life was to send him back. A Danish vessel returning from Greenland must be caught before she sailed for Copenhagen. But the East Greenland current carries enormous masses of ice round Cape Farewell and up the west coast, barring the more southern Danish settlements from the open sea until late in July. M'Clintock would force the little *Fox* through this mighty ice barrier to save his man's life. So he steered for Fredrikshaab, the most southern Danish settlement in Greenland. On July 17, having passed through much loose sailing ice, the *Fox* reached the close pack in the evening, and, after receiving many hard raps, she came to a full-stop at 9.30 P.M. The heavy floe pieces were 25 ft. thick. Still onwards she was pressed. All through the night she fought her way. Four times she was stopped by the ice, and nearly beset. Still she pushed on. The morning of the 18th dawned and found her well through the closest part of the pack. It had been a night of peril and anxiety. In the morning there was a dense fog. But at noon the thick vapour rolled back to the south, and a beautiful sight presented itself. Island after island

came in sight, resting on the deep blue sea, then the lofty mountain peaks appeared, while to the north was the famous "Eis Blink," or glacier, whose reflection in the sky, resembling an Aurora Borealis, may be seen many leagues out at sea. On the 19th the harbour of Fredrikshaab was reached, the "Sandhavn" of the ancient Norsemen in "Herjulfsfjord." It was here that Thorbiorn and Gudrid settled long ages ago, and played an important part in the Norse settlement of Greenland.

McClintock found Dr. Rink, the Danish Inspector of South Greenland, at Fredrikshaab. He had made his acquaintance in 1848 at Upernivik. They walked together over the hills. Dr. Rink was a botanist and geologist, a keen observer of nature, and steeped in all the ancient lore of Norsemen and Greenlanders; a most agreeable companion. As they strolled among the rocks and wild-flowers, the Danish savant told McClintock the wondrous story of Gudrid and the sorceress, the most circumstantial account of a heathen ceremony that is to be found throughout the Sagas. It all happened in Thorkel's house, just below them, where Gudrid and her father lodged. Dr. Rink repeated the incantation called *Vardlokkur*, which Gudrid had learnt from her foster-mother. He then told how Gudrid married the son of Erik the Red, how she became a widow, and how her second marriage with that paladin of romance, Thorfinn Karlsefne, led to the dis-

covery of America.[1] M'Clintock heard these old-world tales on the very scene of their happening, while he gathered the flowers of South Greenland, and was told their scientific names, returning on board after a deeply interesting stroll.

At that time the great Arctic explorer was a man of iron nerve and quite exceptional powers of endurance. For sixty hours he had been almost continually on deck, piloting the *Fox* through the ice with every sense alert, and without rest, and then he had passed that long afternoon in absorbing conversation with Dr. Rink. When he did at last lie down, he slept for thirteen hours without intermission. An order for the sick man's passage home was obtained from Dr. Rink, but the vessel was at Godhavn, far to the north, and just about to sail for Copenhagen; so M'Clintock proceeded along the dangerous coast with all speed. He found the schooner *Neptune* actually standing out, and just had time to take poor Lewis on board and see him comfortably established. It was a near thing, but the man's life was saved.

The second episode of this memorable voyage was the navigation of the Waigat. M'Clintock had reached Lievely on July 31, and obtained ten dogs. Mr. Olrik, the Inspector of North Greenland, gave him several fossils from Atane-

[1] A.D. 1007. From Thorfinn and Gudrid were descended the author of the Saga of Erik the Red, the Counts of Rosenkrone, and Thorvaldsen the sculptor.

kerdhuk, remains of the Miocene forest, and advised him to go to Disco Fjord to secure the services of a dog-driver and seal-hunter. The *Fox* was the first vessel that ever entered this beautiful fjord. Here an unmarried Eskimo named Anton Christian, aged twenty-three, was engaged. He proved to be a very expert seal-hunter and a useful addition to the crew. The *Fox* was then taken round the south point of Disco into the Waigat, or channel between that island and the continent of Greenland, to fill up with coal.

The place is called the Rittenbenk Kolbrott, or coal seam, on the Disco side of the Waigat. The cliffs are of shale and sandstone, with four horizontal strata of coal clearly visible from the ship. High above there is a cap of basaltic buttresses formed by water falling over the summit. A green slope intervenes between the foot of the basalt precipice and the top of the sandstone cliffs. M'Clintock anchored close to the cliffs, and sent his people on shore to dig out coal. He got 125 bags full, about $7\frac{1}{2}$ tons, but was obliged to depart hurriedly owing to the bad and dangerous anchorage. Crowds of icebergs come drifting down the Waigat from a discharging glacier, so that a vessel at the exposed anchorage is in constant peril. The icebergs can be seen drifting in hundreds out of the glacier-discharging fjord, and floating in imposing masses down the channel, grounding and again afloat; calving

LIEVELY

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with loud discharges, and borne along by tides and current. Out of all this grand turmoil it was well for the little *Fox* to escape, for it had been a very nervous time. She made sail with a strong breeze and a rough sea outside. At the little settlement of Proven six dogs were obtained, and a dozen at Upernivik.

Then came the great disappointment. M^c^Clintock had now been through the ordeal of Melville Bay three times. There had been strenuous work and long delays, but always the reward of final success. The year 1857 was, however, the worst on record. The ice was so hopelessly packed that the whaling fleet had not even attempted to reach the North Water. The little *Fox* would strive with all her might, but what was that with the powers of nature banded against her! The constant south-east winds kept the ice closely packed, yet by the end of August the gallant little vessel had made 110 out of the 170 miles required to cross the bay. There was still hope if a northerly wind would spring up. But on September 5 M^c^Clintock began to look upon their doom as almost inevitable—a winter in the drifting pack. He speaks, in his Journal, of the dreaded reality of wintering in the pack. The numerous beautiful clear days, and how beautiful! with the rows of lofty icebergs under the lovely skies, seemed only to make it more tantalising.[1]

[1] Petersen and young Christian had been very successful in

While there was hope McClintock was kept in a state of intense anxiety. But as soon as all hope was gone he resumed his calm frame of mind which was so characteristic of him. The long and perilous winter was inevitable and, therefore, to be faced with fortitude. His chief regret was the disappointment to Lady Franklin. He wrote :

"Notwithstanding this withering blight to our dearest hopes, still I cannot overlook the many sources of gratification which do exist. We do not find ourselves in want of any of the necessaries of life, and we have many of the luxuries. Our provisions are excellent, clothing abundant and good. We enjoy perfect health. The men are most cheerful, obedient, and quiet. Our equipment is perfect in its way. We have plenty of fine dogs and of food for their consumption. Anton Christian is an excellent good creature, an expert dog-driver and a good seal-hunter. Petersen is all that I could wish as an interpreter, besides which his twenty-four years' experience of Greenland makes him very valuable to us. Next year we may be able to do that which we have failed to do this."

In this frame of mind McClintock faced a winter of great danger in the drifting pack. His customary minute attention to every detail ensured the health and comfort of the men ; and their minds were kept from despondency by schools and festivities. An organ had been provided by Lady Franklin. Plenty of exercise was enforced and

their hunting, and the carcases of forty-four seals were secured for the dogs. McClintock observed regularly for magnetic dip.

the men were practised in building snow huts. There was only one sad event. The leading stoker and engine-driver, named Scott, died from the effects of a fall down a hatchway.

The ship continued to drift southwards. During the 250 days that she was beset in the pack ice she was carried down Baffin's Bay and Davis Strait for a distance of 1,194 geographical miles. She was liberated on April 26, but under appalling circumstances.

It was on the 24th that the approach to the edge of the ice became evident, from the heaving swell which reached the ship that evening. Its covering of ice fragments dashed against each other and against the ship. Next day the swell increased. Sail was made and the *Fox* slowly bored her way through it, but soon the waves were 10 to 13 ft. high, dashing huge fragments of ice against the ship. The swell had become a very heavy sea. Much hummocky ice and many pieces of iceberg, some 60 or 70 ft. high, lay dispersed through the pack, and one blow from any of them would have been instant destruction. The only chance of safety was to steer against the sea. To attempt to shape a course in any other direction would have meant the loss of screw and rudder if not of the ship. As she approached the open water there were fewer but more severe shocks from the ice. At length, towards night, the brave little vessel ran through straggling pieces into a clear sea. M'Clintock says in his Journal that, after this

experience on Easter Sunday in 1858, he can understand how men's hair can turn grey in a night. In a letter to his brother he wrote:

"We got out after eighteen hours of such battering as I hope not to see again. I shall never forget the 25th of April, and hope some day to describe to you our escape, if such a scene can be described."

After eight months' drifting in the ice, in constant peril of being crushed, and after two such days and nights as very few have experienced, many commanders would have sought a civilised port for rest and refreshment. No one can have read M'Clintock's life-story without being perfectly certain what he would do. He turned the ship's head Northward Ho! without a moment's hesitation, undaunted and unconquered, to renew his battle with the ice. But he had kept his counsel, and his decision to return north at once came as a thunderbolt to the other officers of the expedition.

On April 28, 1858, the *Fox* was at Holsteinborg, on May 14 at Lievely again, where a second Eskimo dog-driver was engaged, and on May 26 she once more entered the Waigat, for her crew to dig coal out of the seam in the cliff at Rittenbenk Kolbrott. Having completed the coaling, the *Fox* arrived off Upernivik on the 31st, and in the first days of June was once more shaping a course for the dreaded Melville Bay. But this year the season was much more favourable. The whalers

were in full expectation of getting through. Nothing could exceed their cordial hospitality and kindness to the officers and men of the *Fox*. On June 7 she nearly met with disaster through grounding on a rock awash, covered with ice, off Buchan Island, heeled over and for a short time was in great peril. But she came off with the rising tide, without serious injury. By June 27 she was in the "North Water." Having plenty of time before him, and an excellent interpreter, M^c^Clintock proceeded to Pond's Bay and had a thorough examination of the Eskimo settled there to ascertain whether they had any information or had heard any rumours respecting Franklin's ships. But they knew nothing.

On August 11 the *Fox* was off Cape Riley, where a man named Hampton fell overboard. Although the fact is not mentioned in his book, it was M^c^Clintock who at once jumped after him and saved him. The danger was great, as it was not water but sludge ice, in which swimming was impossible and the cold intense. It was found necessary to replenish from the large depôt at Beechey Island, and M^c^Clintock proceeded there to take what he needed. At Lievely he had found a marble tablet sent out by Lady Franklin in 1855 by the American vessel that was dispatched for the relief of Dr. Kane, to be erected at Beechey Island. But it had been left at Lievely. M^c^Clintock had taken it on board the *Fox*, and now he placed it on a

raised flagged platform, on which also stand a cenotaph with the names of those who died during the expedition of 1852–4 and the tablet to the memory of Lieutenant Bellot. Lady Franklin's tablet is to the memory of Franklin, Crozier, Fitzjames and all their gallant brother officers and faithful companions. The tablet was found in perfect order and was photographed by Amundsen in 1903.

On August 16, 1858, M'Clintock sailed from Beechey Island, and, after visiting the depôt at Cape Hotham, he ran down Peel Sound direct for the scene of his discoveries. But after 25 miles he was stopped by unbroken ice extending across from shore to shore. Without a moment's hesitation he went round and took the alternative route down Prince Regent's Inlet, passing Fury Beach on the 20th. Next day the *Fox*, by an unsparing use of steam and canvas, was forced half way through Bellot Strait. Then she was stopped by 5 or 6 miles of pack ice, the sole obstacle to her progress. Some part of this ice was swept out into Brentford Bay by a strong current from the west. When Kennedy and Bellot discovered Bellot Strait in 1852 it was frozen over. It had never before been visited in the open season, and it has never been visited since. M'Clintock describes Bellot Strait as precisely like a Greenland fjord, about 20 miles long and 1 mile wide in the narrowest part, with lofty granite shores on either side. Parallel with its

north coast there is a lake 10 miles long by half a mile broad. At first it was known as the Long Lake, but eventually it received the name of Macgregor Laird, after a subscriber to the expedition.

For over a month the *Fox* waited for the ice to disperse sufficiently for her to reach open water to the west, and no less than six attempts were made to take her through. By September 5 the strait was clear, and she was able to advance through it, and 12 miles beyond, to an island which was dubbed "Pemmican Rock," but here the ice stopped her. By the 19th much open water could be seen in the offing, separated only by a belt of ice hardly 4 miles in width. This ice was held fast by a fringe of rocky islets off the western end of the strait. Great was the mortification of the explorers at not being able to advance farther. From his subsequent examination of the ice along the west shore of Boothia M'Clintock found that this narrow strip of ice alone prevented his reaching Cambridge Bay and completing the north-west passage. But young ice began to form rapidly. By September 27, not a day too soon, the *Fox* was established in winter quarters in a small harbour which received the name of Port Kennedy, at the eastern entrance of the strait.

None the less the battle was won. It had been a long and arduous conflict with the ice, but victory remained with M'Clintock and his gallant crew. Though not as near as they had hoped,

they were yet established within reach of the area which must be searched in order to perform their sacred duty to the lost ones and to their country. Only the distances to be traversed by sledges must be longer.

It is interesting to know M'Clintock's plans if he could have made his way through the ice and have reached the north magnetic pole in the ship. He sketched them in letters both to Sir Richard Collinson and to Dr. Donnet. He intended to pass down the east coast of King William Island to the estuary of Back's Great Fish River, finish his searches in that neighbourhood, and winter near the south-west angle of King William Island. If not obliged by necessity, or duty, to winter there, he thought that the south-east angle of Victoria Island would be best suited for a spring search from the ships. His impression was quite correct, that Franklin's ships had been beset off the north shore of Victoria Island, in their effort to pass from Peel (now Franklin) Strait to the south-west. If he got to the Fish River he would return by Bering Strait; if unable to pass beyond the magnetic pole, he would return by Baffin's Bay in 1859. He was ready for all contingencies.

REGION EXPLORED BY SEARCH PARTIES FROM THE "FOX".
100°
Browne's farthest
95°
Four Rivers Bay
NORTH SOMERSET
PRINCE OF WALES
Osborn's farthest
ISLAND
FRANKLIN STRAIT
C. Bird
Bellot Strait
72°
Pemmican R.
C. Eyre
Marchison Promontory
M'CLINTOCK CHANNEL
71°
BOOTHIA
Gateshead I.
NORTH WEST PASSAGE
Erebus & Terror beset Sept. 1846
Magnetic Pole
70°
C. Felix
C. Victoria
Victory Pt
Collinson Inlet
Matty I.
Erebus Bay
KING WILLIAM ISLAND
C. Grozier
69°
Terror B.
Washington B.
C. Herschel
C. Ogle
C. Britannia
68°
Montreal I.
Great Fish R.
100°
95°

CHAPTER XV

DISCOVERY OF THE FATE OF FRANKLIN

> Theirs is a tale to stain the coldest eye
> With tears. Sublime in its simplicity.
> A tale of woe and peril; yet they trod
> Those wastes of death with confidence in God.

IT was one of the leading points in M^c^Clintock's character that he was always ready to receive suggestions and adapt his means to his ends. He was the first to see that plans and measures suitable for a large Government expedition with unlimited means must be changed and modified for a small private expedition. After providing for the ship in their absence, he now only had twelve available men and twenty-two dogs with which to complete the search, and also to complete the geographical discovery of the Parry Islands. M^c^Clintock was the first living authority both as regards sledge-travelling with men and sledge-travelling with dogs. He was now in a different part of the Arctic regions, which, though farther south, was not less cold and where fogs and furious gales were as frequent; and though his former experience was invaluable, on some points he would have to adapt his arrangements

to altered circumstances. Eskimos might be met. More abundant snow of suitable consistence would enable his people to use snow huts and lodges. On the other hand, his very reduced numbers would prevent him from adopting his former system of limited and auxiliary sledge parties. He had already thought the matter out with great care, had caused all the equipments to be got ready, and had matured his plan.

There were to be three expeditions, led by Hobson, Allen Young, and himself. Each was to consist of one sledge drawn by four men, with weights reduced to 200 lb. per man at starting; and one dog-sledge, with driver and a team of seven dogs dragging 100 lb. per dog at starting. Hobson was to examine the north coast of King William Island, cross to Gateshead Island, and connect Collinson's farthest point with Wynniatt's farthest from the *Investigator*, thus completing the discovery of Victoria Island. The north coast of King William Island was assigned to Hobson because the most important relics would probably be found there, and M'Clintock, with his usual kindness and generous self-abnegation, wished that his young officer should have the credit of first finding them and thus win his promotion, as actually did occur. Allen Young was to discover the southern coast of Prince of Wales Island and to explore to the westward if possible. He was also to discover another piece of unknown coast from Sir James Ross's farthest in 1849, at Four

River Bay to Cape Bird and Bellot Strait. M'Clintock himself would examine the mouth of the Back River and Montreal Island, as well as all the coasts of King William Island, thus returning over Hobson's ground and ensuring a double search over the most important area. He would also discover the unknown coast from Bellot Strait to Cape Victoria, which was James Ross's farthest in 1832. Thus was a complete and thorough search arranged for vestiges of Franklin's expedition, as well as for the completion of the discovery of the Parry Islands.

Provision for establishing autumn depôts was important. While the *Fox* was still in Bellot Strait, and before she was fixed in winter quarters, a considerable depôt had been landed at the west end of Bellot Strait, at a place called Pemmican Rock, near Cape Bird. In September depôts were placed on Arcedeckne Island to the westward, and Hobson advanced them during an absence from September 25 to October 6. In the depth of winter, from February 17 to March 3, Allen Young carried his depôt across the ice of the intervening channel, and placed it on the hitherto undiscovered shore of Prince of Wales Island, 90 miles from the ship. A fortnight afterwards Allen Young started again for Fury Beach to get some sugar from the stores landed there in 1824. He had two dog-sledges with the two Eskimos and one sailor. They went very light, and ran the whole 200 miles—an extra-

ordinary feat. With some difficulty, owing to the covering of snow, he found the provisions left by the *Fury*, which enabled him to eke out his own. He brought back 8 cwt. of sugar, having to lift the cases over lines of hummocks, the labour being great and the cold intense. He got back on March 25. Altogether he had twenty-two days of autumn and winter travelling.

The sledging parties of the *Fox* expedition started earlier, and with lower temperatures than any that had gone before. M'Clintock himself set out on February 17 on a journey down the undiscovered coast to Ross's farthest in 1832. The mean temperature during his journey was −33° and the minimum −48°. His object was to find and get information from Eskimos, so that the time of his absence was uncertain. He intended to build snow huts instead of using tents. Travelling along the shore of the Long Lake, he built his first snow hut near Pemmican Rock, having marched 20 miles with his team of dogs. Next day the temperature was −48°. Each evening it took M'Clintock, Thompson, and Petersen about two hours to build the snow hut. On March 1 they encamped on Ross's north magnetic pole. Here they were joined by four Eskimos returning to their village from seal-hunting. These natives, for payment of a needle each, built a snow hut for them in half the time, which was a considerable relief. Next day the hunters went to their village and came back with

forty men, women, and children. They nearly all had some plunder from the ill-fated *Erebus* and *Terror*. One of them stated that a ship had been crushed by the ice out at sea. Several relics were obtained. This was a period of great hardship and suffering for the travellers, owing to the intense cold. The cooking had to be done with blubber inside the snow hut; and they had scars on their faces and stiffened fingers from frost-bite. The journey occupied twenty-six days in the depth of winter. It embraced at least 360 geographical miles and completed the discovery of the coast-line of North America. In discovering this coast M^c^Clintock discovered the north-west passage for ships. The continuity of a sea from the Atlantic to the Pacific was discovered by Graham Gore and Des Vœux of the Franklin expedition when they reached Cape Herschel. This continuous sea was walked over by M^c^Clure and the crew of the *Investigator*, when they travelled on the ice from the Bay of Mercy to Beechey Island. But both the sea walked over by M^c^Clure and that in which Franklin's ships were crushed are always blocked by heavy pack ice not navigable for ships. M^c^Clintock discovered the only navigable north-west passage, which lies round the east side of King William Island, and forty-five years afterwards Amundsen sailed through it.

The poor little *Fox* was not a pleasant place for her captain to return to after such hardships.

The accommodation was very different, indeed, from that of the old *Assistance* when he was first lieutenant. M'Clintock was more wretchedly lodged than anybody else in the ship, officers or men. He took great care of every one else, but none of himself. His cabin was 14 ft. long, 6 ft. wide, and 6 ft. high. Three sides of it were coated with ice and frost, a large pailful of icicles being taken out of it every two days; and so that others might have more coal, he had no stove.

He must have been made of steel and iron. Others were not; but with stoves, ventilation, plenty of exercise, and wholesome food, he kept them in good health through the winter. He had a snow hut for magnetic observations, and observed diligently, while for observations of other kinds he had zealous help from his officers. The sudden death of Mr. Brand, the engineer, from apoplexy was a very serious loss, for his assistant, Scott, had died in the previous winter, and the two stokers knew nothing about machinery.

The men were kept cheerful and happy by the recurring festivals, when they feasted and sang:

> Oh, this is the hour for music and revelry,

and as April came nearer M'Clintock declared that the eagerness of the crew to commence travelling was quite charming.

April 3 was the appointed day. Petersen was to drive M'Clintock's dog-sledge. The captain of the man-sledge was that Alexander Thompson

SAMUEL AND CHRISTIAN

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of the old *Resolute* who was McClintock's companion during his famous dog-sledge journey in 1854. The others were Simmonds, a petty officer, formerly of the *Assistance*, and two young sailors named Carey and Hampton. Hobson's team was driven by Anton Christian, the Eskimo from Disco Fjord, Toms, the quartermaster, a capital fellow, was captain of his sledge, ably supported by the carpenter's mate, George Edwards, who had served in the *Assistance*. The two other men were Pound and Jones. The latter could turn his hand to most things; for besides being a sailor, he was also a trained steward and a dog-driver. McClintock had allowed Hobson and Allen Young to choose their dogs first.

McClintock and Hobson were to travel south together, as far as Cape Victoria, when the latter was to cross over to Cape Felix on King William Island, while McClintock pressed onwards to the Great Fish River. On meeting the Eskimos near the same place as in March they told him, what they had concealed before, that another ship had been driven on shore. Many more relics were seen in their possession. But the people were inveterate thieves, and it was quite certain that no depôt would be safe on these shores; a drawback which might seriously increase the difficulty of travelling.

Hobson parted company with his captain at Cape Victoria, and crossed the north-west passage to King William Island, landing at Cape Felix

on May 2, on a very low shingly beach. Next morning a large cairn was seen, but nothing was found in it but a piece of blank paper. There was, however, evidence of an encampment and that it had been hastily abandoned, for tents, clothing, and other things were left behind. Hobson made a careful list of everything he could find, and noted the positions of the tents and all the details of the encampments. An hour's travelling brought them to another small cairn, but there was nothing in it. On the morning of the 6th they came to another small cairn, in which there were a broken pick-axe and an empty cannister. After marching about 4 miles in a southerly direction they came to a large cairn with a quantity of gear strewn round it. Among some loose stones which had fallen from the top a tin cylinder was found containing the famous document which announced the fate of Franklin and of the expedition. The most interesting relics were taken, and a detailed list made of the remainder. Continuing his journey to the south there was an almost continuous gale from the north-west during six days, and for two days the party was confined to their tent. On the 19th Hobson, with Jones and Christian, took the dogs to go a little farther, leaving the other three men in a snow hut. On the 22nd Hobson felt ill and scarcely able to walk, so he returned to his men in the snow hut, having built a cairn and left full information for M'Clintock. They then began the return journey, Toms

and Edwards being sent to follow the coast-line. The two men discovered a large boat on the beach, which was carefully examined and all its contents noted. The journey was then resumed, and on the 28th a small cairn was found in the southern extremity of Back's Bay, containing a cylinder with another copy of the document signed by Graham Gore and Des Vœux. Returning to the more important cairn, the rest of the day was passed in making further search.

Owing to his illness Hobson gave up all idea of crossing Victoria Strait and effecting the desired geographical discoveries. It had snowed almost incessantly. Hobson got rapidly worse, and at last he was obliged to be carried on the sledge, not reaching the ship until June 14, after an absence of seventy-four days. His men were all in good health, and Hobson bore testimony to their zeal and excellent behaviour. Toms, the discoverer of the boat, and the carpenter's mate were of immense assistance. Lists of all the articles Hobson had taken back or seen, with full particulars and a copy of the documents, were left in a cairn for M^c^Clintock.

The captain commenced his search down the north-west passage with his interpreter Petersen, four men, and a load diminished to thirty days' provisions. On May 4 he reached Matty Island, and came upon a deserted village, but there were no natives. M^c^Clintock, therefore, returned to the coast of King William Island and met with

an inhabited snow-hut village. Here six pieces of silver plate were obtained with the crests of Franklin, Crozier, Fairholme, and Macdonald, besides a few other relics. The natives spoke of the wreck in a position four days' journey overland, and said that many white men had dropped by the way, some had been buried and some not.

M'Clintock was now approaching the estuary of the Great Fish River, and on May 12 he crossed the sea to Point Ogle. A furious gale confined them to the tent for two days, but on the 15th Montreal Island was reached. The island was thoroughly examined in the face of tempestuous weather and intense cold, but no cairn was found, and only a few articles, such as bits of iron hoops, scraps of copper, and an iron hook-bolt were picked up, probably part of the plunder taken by Eskimos from a boat.

At this season there is scarcely any game. During the whole journey to the Great Fish River M'Clintock had only obtained one bear and a couple of ptarmigan ; and at Montreal Island he shot a hare and a brace of willow grouse. It is sad to reflect that this was the very time of the year when Franklin's crews were forced to attempt their retreat. In July and August the deer arrive and game is abundant.

On the 24th M'Clintock's party again crossed the frozen sea to King William Island, and commenced the march northwards. The advance along this dreary western coast was the crowning

achievement of the great explorer's Arctic career. He was now on the shore along which the retreating crews must have marched. Every step he took might lead to discoveries of intense interest. It was shortly after midnight on the 25th, while slowly walking along a gravel ridge, that M'Clintock came upon a human skeleton with some fragments of clothing. The clothes were those of an officer's steward, and with them there was a small clothes brush, a pocket comb, and a letter case. Hungry and exhausted, the poor fellow had fallen on his face and perished, probably passing away without pain. The Eskimos had said, "They fell down and died as they walked along." The shroud of snow no doubt concealed many other skeletons.

On reaching Cape Herschel, discovered by Simpson on August 24, 1839, which was 150 ft. high and crowned by his conspicuous cairn, M'Clintock was full of hope that some of Franklin's records would have been deposited there. He ascended the slope, examined the cairn with great care, and even dug up with a pick-axe the frozen ground beneath it, but nothing whatever was found. The cairn itself was erected in 1839, but one side of it had since been broken down by Eskimos. M'Clintock believed that the retreating parties had left a record here, but that it had been found and thrown away or destroyed by Eskimos. It was with a feeling of deep regret and disappointment that he left the spot. About 12 miles

farther on he found a cairn built by Hobson's party and containing all his news.

On May 29 the western extreme of King William Island was reached (69° 8′ N., 100° 8′ W.) and named Cape Crozier. The coast was a series of limestone ridges, and to seaward there was a rugged surface of crushed-up pack, including much heavy ice. On the following day the camp was formed alongside the forlorn boat of the *Erebus*, the saddest and, next to the record, most interesting of all the discoveries. The boat had been made lighter, and there was the evidence that she had been prepared, with great care, for river navigation. She was mounted on a very strong sledge of oak planking. The boat contained a good deal of clothing, some provisions, small articles of various kinds, five watches, twenty-six pieces of silver plate, and five small books. Among them there was a "Manual of Private Devotion" given by Sir George Back to Graham Gore, the first lieutenant of the *Erebus*. It was restored to Sir George, who kept it on his drawing-room table under a glass case to the day of his death. There were two double-barrelled guns, one barrel in each loaded and cocked, standing upright against the boat's side.

There were also portions of two human skeletons. One was that of a slight young person, probably an officer, in the bows; the other that of a large man, enveloped in clothes and furs, under the afterthwart. What a tale was there, a tale untold!

Fortitude, discipline, resolution, comradeship and Christian resignation were there:

> But never back from out that waste of snow,
> Came the far footsteps of those weary brave;
> The drifting sleet the bitter west winds blow
> To hide their graves.

The boat was about 50 miles from Point Victory or 65 miles from the ships. For that distance the heavy sledge on which the boat rested had been dragged, but now her head was pointed back to the ships. Out of these few facts a pathetic story may be constructed, perhaps not very far from the truth.

M'Clintock reached the cairn on Point Victory on June 2, whence he explored a deep inlet which he named after Captain Collinson, who had managed all the financial business of the expedition for Lady Franklin. M'Clintock had named a bay beyond Cape Herschel after Captain Washington, the Hydrographer of the Admiralty, and formerly Secretary of the Royal Geographical Society, an equally warm friend of the expedition. "But all the intermediate coast-line, along which the retreating crews performed their fearful death march, is sacred to their names alone."

At Cape Victory the great work of M'Clintock's Arctic service was completed. There had been found the tin cylinder containing the story briefly told.

"H.M. Ships *Erebus* and *Terror*,
Wintered in the ice in
Lat. 70° 05′ N., Long. 98° 23′ W.

"*May* 28, 1847.—Having wintered in 1846–7 [1] at Beechey Island, in Lat. 74° 43′ 28″ N., Long. 91° 39′ 15″ W., after having ascended Wellington Channel to Lat. 77° and returned by the west side of Cornwallis Island, Sir John Franklin commanding the expedition. All well. Party consisting of two officers and six men left the ships on Monday, May 24, 1847.

"GM. GORE, *Lieut.*
"CHAS. F. DES VŒUX, *Mate.*"

Round the margin Captain Fitzjames had added:

"*April* 25, 1848.—H.M. ships *Terror* and *Erebus* were deserted on April 22 5 leagues N.N.W. of this, having been beset since September 12, 1846, the officers and crews consisting of 105 souls under the command of Captain F. R. M. Crozier, landed here in Lat. 69° 37′ 42″ and Long. 98° 41′ W. This paper was found by Lieutenant Irving under the cairn supposed to have been built by Sir James Ross in 1831 4 miles to the northward, where it had been deposited by the late Commander Gore in June 1847. Sir James Ross's pillar has not, however, been found and the paper has been transferred to this position, which is that in which Sir J. Ross's pillar was erected. Sir John Franklin died on June 11, 1847, and the total loss by deaths in the expedition has been to this date nine officers and fifteen men.

"JAMES FITZJAMES, *Captain*,
H.M.S. *Erebus*."

The document was countersigned:

"F. R. M. Crozier, captain and senior officer, and start on to-morrow (26th) for Back's Fish River."

[1] Clerical error for 1845–6.

This official note shows the man. It is concise, clear, and to the point, such a note as Leonidas might have written before Thermopylæ. There is the close attention to details so characteristic of Fitzjames; but no word of complaint or of anxiety: calm, dignified, laconic as became the leader of dying heroes, he thus guided the last pen he was ever destined to hold.

Round the cairn were strewn shovels, iron hoops, a large single block, four sets of boat's cooking stoves, a medicine chest, a sextant, a dip circle, and a great heap of clothes. Alas! the weights on leaving the ships were soon found to be too great. Divesting themselves of all superfluities our heroic countrymen calmly prepared to make one effort for life, and to fall with their faces to the foe.

Franklin and his gallant companions had done splendid work. In the first year they had discovered the whole of Wellington Channel to its opening on the ice-encumbered polar sea, and had also discovered the channel between Cornwallis and Bathurst Islands. This was a most remarkable voyage. In the second year it was wisely determined to push for the North American coast by the opening between North Somerset and Cape Walker. Here again success attended them. Everything that depended on themselves was done wisely, judiciously, and well. To what, then, was the awful disaster due? The answer is first to erroneous charts, second to bad provisions. If the *Erebus* and *Terror* had hugged the east coast of

Boothia they would have made the north-west passage. But the chart of those days made King William Land a peninsula of Boothia. There was, therefore, no alternative but to attempt a passage round the west coast of King William Island, where they were beset in that impenetrable pack from which there was no possibility of escape. This was the first and primary cause of the disaster. The second cause, which involved the deaths of every soul on board both ships, was the supply of bad provisions. The Admiralty made a contract with a man named Goldner, whose rascality was not found out until after the expedition sailed. The great pile of condemned tins at Beechey Island told the sad story. Decimated by scurvy on board, with the seeds of scurvy in all the survivors, they were forced by starvation to make their last attempt for life in the month of April, when there is no game, instead of August, when game is abundant. It must always be remembered that all was done most judiciously and well so far as commander, officers, and men were concerned. They made two most remarkable and successful voyages, and they deserved well of their country. Most heroic was their final effort. But the pathetic story must be read in M^c^Clintock's beautiful narrative.[1] The discoverer of the fate of Franklin could alone adequately describe what we must all look upon as one of the most harrowing episodes in our history.

[1] Published by Mr. Murray, and now in its seventh edition.

It was on the morning of June 2 that M^c^Clintock stood beside the cairn at Point Victory, looking over the wild scene to the northward whence the stricken wayfarers had come from their ships just eleven years before. During that long time M^c^Clintock had devoted all his energies and all the powers of his mind first to their rescue, and then to ascertain their fate. Success had at length crowned his efforts. The mystery of Franklin's sad fate was revealed to the world, and the achievements of the expedition were added to the naval records of our country. All this M^c^Clintock had now accomplished. He had also discovered the *navigable* north-west passage. The party returned to the ship, after this memorable journey, on June 19, having been absent seventy-six days. All were in perfect health except Hampton, who required rest.

Allen Young had commenced his journey of discovery on April 7 with Samuel as dog-driver, the old veteran Harvey as captain of his sledge, George Hobday, Florance the stoker, and a seaman named Haselton.

In two days the party had crossed the channel which M^c^Clintock had named Franklin Channel, and landed at Cape Eyre, on Prince of Wales Island. The coast, as they advanced, was low and desolate in the extreme. On April 19 they rounded the southern point of the land, tremendously heavy ice extending to the horizon. When Young found that the land trended to the north, he at once saw

that, to complete his share of the work, he must reach Osborn's farthest (see p. 131). But he had not sufficient provisions to do this with all his men. So he sent back all except Hobday, with the sledge in charge of old Harvey, to the depôt left at Cape Eyre. Allen Young and Hobday pressed onwards with the dogs. Untrained in the building of a snow house, they merely dug a ditch in the snow just big enough to hold two for passing the night. The coast was so low that it was difficult to distinguish the land from the ice, and there were frequent fogs. On May 7 Allen Young reached the table-topped hills, 380 ft. high, which were seen by Sherard Osborn in 1851,[1] where he passed the night, and whence the whole western sea appeared to be a mass of huge ice blocks and hummocks. Having reached Osborn's farthest, Young made a gallant attempt to cross the channel to Victoria Island. But it was impossible. The travelling was among such ice hummocks as Young had never seen before, with deep fissures into which the sledge constantly fell and was almost buried. This was on May 20. Next day he still persevered, but after 2½ marches he had only progressed about 15 miles. He then reluctantly gave up the attempt, and returned to the land, making the best of his way back to the depôt at Pemmican Rock, where he found his men encamped. Old Harvey kept a journal, in which

[1] "Observed two remarkable cone-shaped hills on the land bearings south-easterly." May 21, 1851 (Blue Book, p. 97).

the principal event recorded was that a bear came and tore at the tent, and then took a bag of bread off the sledge. But he only got 200 yards and had not had time to eat any, when he was shot. Allen Young and Hobday joined their comrades again at Pemmican Rock on June 6, having travelled together for forty days. Young was obliged to return to the ship for medical treatment, but started again on the 10th, in spite of the doctor's remonstrances, to finish his work. He completed his discoveries on the west coast of Prince of Wales Island, where the land is higher and less forbidding, and the travelling much better, reaching Willy Browne's farthest on June 20. He then crossed the channel to Ross's farthest in 1849, and completed the discovery of the west coast of North Somerset to Cape Bird. Young took frequent observations for latitude and for longitude by chronometer and lunar distances. But they were nearly worn out by the long period of hardships, and in crossing the channel they had to drag while up to their thighs in water. It was all they could do to reach Pemmican Rock, where the travellers were met by M'Clintock on June 27, who had been anxiously looking out for their return. They had been travelling for eighty-two days.

From a geographical point of view Allen Young's journey was one of great importance. He completed the discovery of Prince of Wales Island and the west coast of North Somerset, he examined

the tremendous ice in what is now called M^c^Clintock Channel and found that it never could be navigable, and he established the feasibility of a north-west passage by Franklin Channel.

M^c^Clintock acknowledged the valuable services of Allen Young in a letter in which he assured him that he always felt the fullest confidence in his ability, energy, and zeal, whether in charge of the ship or in conducting his independent line of discovery by sledge; nor, he added, "do I know of any instance of conduct so disinterested as yours in embarking as you did in the recent Arctic expedition." His friendship with Sir Allen Young lasted all his life. He felt great admiration for Young's various public services, often speaking of him as perhaps the finest of living seamen. All the men received their captain's hearty thanks for their great exertions during the travelling period; and he told them that he considered every part of the work to have been fully and efficiently performed.

The engines had been taken to pieces for the winter; but the engineer had died and the two stokers knew nothing about the machinery. Yet M^c^Clintock says in his book that "it is very cheering to know that we still have steam power at our command." He does not tell us that he himself tucked up his sleeves, went down into the engine-room, and got the engines into working order with his own hands. There was no one else on board but "the mate of the *Gorgon*," with his first-class steam certificate, who could have done it.

Officers and men had been fed up on fresh food during July—8 deer, 9 hares, 82 ptarmigan, 98 wildfowl; so all were out of the sick list when the *Fox* escaped from her winter quarters on August 10, 1859. M^c^Clintock alone worked the engines for several days, until the vessel was got under sail. M^c^Clintock himself had travelled over 920 miles in his journey to the Great Fish River and round King William Island; all his journeys together covering 1,330 miles. The discoveries of new coast-line made by the expedition amounted to 800 miles. On September 10, after a gratifying reception at Lievely, the *Fox* passed Cape Farewell, and on the 23rd she was taken into dock at Blackwall. Captain Collinson arranged for paying off the crew. He had done all the business connected with payments and remittances during the absence of the *Fox*.[1]

There was no longer any apathy now. The whole nation was filled with admiration at the way in which the great and memorable success had been achieved. The British Association was holding its meetings at Aberdeen, and there was an afternoon party at Balmoral.

"A slight stir was seen at one part of the grounds, and a knot of eager faces was seen to

[1] Old Petersen next went with Nordenskiold to Greenland in 1861. He received the silver cross of the Danebrog from the King of Denmark, and was given charge of a light-house. He died at Copenhagen, aged sixty-seven, on June 24, 1880.

gather round some central figure. By-and-by Sir Roderick Murchison emerged, and, obtaining audience of the Queen, announced to her Majesty that he had just received a telegram reporting the discovery by Captain M'Clintock of the fate of Franklin." [1]

The Queen subsequently conferred the honour of knighthood on the great explorer, an "Arctic knighthood," as he called it, an honour shared with Parry, Franklin, Back, the Rosses, and M'Clure. The Queen knighted him at a levée with Lord Gough's sword. He was always proud of having been knighted with the sword of that great soldier and fellow-countryman.

The Lords of the Admiralty were different from the Board of 1857. On October 24, 1859, M'Clintock received a letter from the Secretary, informing him that, in consideration of his important services, the period during which he commanded the *Fox* (June 30, 1857, to September 21, 1859) would be reckoned as time served by a captain in one of Her Majesty's ships, but this did not carry full pay. Hobson was promoted to the rank of commander,[2] and all the crew who were not previously entitled to them received Arctic medals. Later, Parliament voted £5,000 for the officers and men of the *Fox*. M'Clintock's

[1] Geikie's "Life of Murchison," ii. p. 228.

[2] In 1862 Commander Hobson was appointed to the *Vigilant* in the East Indies and served in the Persian Gulf. He was promoted to the rank of captain on April 11, 1866, and retired. Hobson died on October 12, 1880.

share of this was £1,500. On October 5 McClintock and his colleagues, Hobson, Allen Young, and Dr. Walker, were entertained at dinner by twenty-five Arctic officers, with McClintock's old leader, then Admiral Sir Horatio Austin, in the chair. But the whole country welcomed the explorers from their great and successful voyage. It was felt that a weight was taken off the conscience of the nation by the splendid service which had saved its honour and its credit. McClintock received the freedom of the City of London and of the Grocers' Company, also of Londonderry, and honorary degrees of the universities of Oxford, Cambridge, and Dublin. In 1860 he was elected a Fellow of the Royal Geographical Society and its gold medal was conferred upon him. He had read his paper on the voyage of the *Fox* at a crowded meeting on November 14, 1859. But what touched the great explorer more than anything else was the presentation to him of a gold chronometer by the officers and men of the *Fox*.

As long as I live [he wrote] it will remind me of that perfect harmony, that mutual esteem and goodwill, which made our ship's company a happy little community, and contributed materially to the success of the expedition.

Lady Franklin was more than satisfied with the result of her expedition, and felt unable to express the admiration and gratitude she felt for her commander. The gold medal of the

Royal Geographical Society was granted to her in 1860 in commemoration of her husband's discoveries. In her last years she derived some solace from watching the progress of the monument in Waterloo Place which was voted by Parliament. The proposal originated in an excellent speech by Sir Francis Baring, supported by Mr. Whiteside, and by Mr. Coningham, the brother-in-law of Fitzjames. They carried the House with them, and the Government was obliged to consent. The statue of Sir John Franklin stands on a pedestal with names of the officers and crews of the two ships in bronze, and a bas-relief representing the funeral of Franklin in the ice, by W. W. May, who was a mate in the *Resolute* in 1850–1. He attained to eminence as an artist, and was much liked by Lady Franklin. A bust of Sir John was placed in Westminster Abbey with Tennyson's [1] lines :

> Not here! the white North hath thy bones, and thou,
> Heroic sailor soul,
> Art passing on thy happier voyage now
> Towards no earthly pole.

Lady Franklin lived to see these national tributes to her husband before her death in 1875.

The labours of the Franklin expedition and the search expeditions embrace a period of fifteen years. Twelve of those years saw the achievements of M^c^Clintock. These expeditions form the

[1] Tennyson married a daughter of Sir John Franklin's sister Sarah, Mrs. Selwood.

most heroic as well as the most romantic episode in the history of maritime enterprise. The story includes great names, but foremost among them was that of Lady Franklin. She was revered for her self-sacrifice and her self-abnegation, for her generous appreciation of the work of those who eagerly sought to help in the search, for her untiring hopefulness. She was loved by all who knew her, and she took care to know and to encourage all those who strove to help her. She gained her noble objects by arousing the chivalrous feeling of the devoted men who gathered round her. Only a woman could have achieved this. She introduced into the expeditions the element of chivalry, and it was this inspiration which gave to the searches the character of an epic.

Almost immediately after his return, it became incumbent on McClintock to prepare his narrative for publication. He had always kept a careful journal, so that the arrangement of the work was not very laborious, and he had the advantage of help from his old friend, Sherard Osborn, who saw it through the press. The result was the publication, in 1860, by Mr. Murray of "A Narrative of the Discovery of the Fate of Sir John Franklin and his Companions," dedicated to Lady Franklin, with a preface by Sir Roderick Murchison. In this preface tardy justice is done to Dr. King in a footnote.

McClintock's work had a large and immediate sale, and went through seven editions. It is the

best and most interesting of all Arctic books, because no other author ever had such a tale to tell. It is worthy of its subject—a story modestly and simply told, but with clearness and conciseness, and yet with such unconscious force and pathos that the reader becomes enthralled by the living interest of the narrative. It has dramatic unity, its several episodes all leading up to the culminating point of interest. Unconscious of his own power, M'Clintock unintentionally impresses the reader with his supreme ability and consummate leadership. The geographical value and importance of his Arctic labours is shown by the great extent and character of his discoveries. He was a close observer and a diligent collector. His labours enabled Professor Haughton to prepare a very complete account of the geology of the Parry archipelago, and to fix the line where the Pacific and Atlantic tides meet; thus explaining several geographical phenomena of great interest. These papers form the appendix to the earlier editions of M'Clintock's work, and add considerably to its value.

M'Clintock had now passed ten navigable seasons and six winters in the Arctic regions. He had experience with sailing vessels and with steamers. He had founded and perfected the art of sledge-travelling. No one had approached him in the success of his journeys with men. He also had great experience with dogs. His conclusion was that the greatest distance a sledge

party could accomplish in the Arctic regions would be 600 miles, carrying 60 days' food, without depôts. While recognising the value of dogs, if well treated and well fed, for keeping up communications and for journeys over fairly good ice, he thought that, on a very long journey, men would beat dogs. He agreed with Captain Scott that—

"No journey ever made with dogs can approach the height of that fine conception which is realised when a party of men go forth to face hardships, dangers, and difficulties with their own unaided efforts, and by days and weeks of hard physical labour succeed in solving some problem of the great unknown. Surely in this case the conquest is more nobly and splendidly won." [1]

This chapter may fitly conclude with the impressions of one who was not the least useful member of the expedition, nor the one whose services M^c^Clintock least valued. It was inevitable that Dr. Walker should remain on board during the travelling, to look after the five who were unfit for hard work, including the two stewards, and to attend to the men as they returned. Long afterwards Dr. Walker wrote down his impressions of the *Fox* and her captain:

"Throughout our entire voyage harmony prevailed, and this was absolutely due to the character of our commander. Filled with the milk of human kindness himself, he worked all that was good

[1] "Voyage of the *Discovery*," i. p. 467.

out of us, and rounded out our lives by his own geniality. In my own case the crudeness of collegiate knowledge and the arrogance of youth were met by drawing from his vast storehouse and by kindly counsel. He forced one to desire and to deserve his friendship by the inspiration of his high ideals. Under no other environment can there be a time to try men's souls more trying than that of an Arctic winter, without daylight, cabined cheek by jowl, and with the seeds of scurvy in us all. Then there is a tendency for one's worst qualities to show themselves. But our captain shed the light of his countenance upon us, and infected us with his own happiness under adverse circumstances. Never shall I forget the two times when his soul was most tried, when we were beset in Melville Bay, and when we were stopped by the ice in Bellot Strait. But McClintock at once accepted the inevitable, and adverse circumstances only strengthened the resolve to do his best. To us he seemed never to use his energy to the fullest extent, but to husband it, and at all times to retain it absolutely under his command. Most resourceful in all exigencies, he met and overcame them as they appeared. The modesty of his own story in 'The Voyage of the *Fox*' is an epitaph in itself."

CHAPTER XVI

GEOGRAPHICAL RESULTS OF DISCOVERIES AND RESEARCHES BY SIR LEOPOLD M^cCLINTOCK

THE discoveries of Sir Leopold McClintock in the Arctic regions, both geographical and hydrographical, were of vast extent, and of great practical importance. The south coasts of the Parry Islands had been seen at a distance by that great navigator, after whom they have been named, the south coast of Melville Island was explored by him, and the island crossed to the north coast. But McClintock was the first to explore the south coasts of the other islands, walking on foot from Cape Hotham, the south-east point of Cornwallis Island, to Cape Dundas, the south-west point of Melville Island. He discovered the west side of Melville Island, the northern half of Prince Patrick Island, and Emerald Island. Partly with Sir James Ross, largely by himself, and partly by Allen Young under his direction, the northern shore and the whole of the western shore of North Somerset from Cape Bunny to Bellot Strait were discovered and carefully examined. The northern extreme of the American

continent, from Bellot Strait to the north magnetic pole, was discovered. Bellot Strait was carefully and minutely examined and described, and the extreme northern point of North America ascertained and named after Sir Roderick Murchison. The whole of the coast-line of King William Island was marched round and examined, and the greater part discovered. Under M'Clintock's direction, Allen Young discovered the southern half of Prince of Wales Island.

Throughout these journeys M'Clintock took sights whenever the sun was visible, latitudes by meridian altitude and longitudes by chronometer. He was careful and diligent in taking and recording magnetic and meteorological observations throughout his Arctic service. From the first he was a zealous and soon became a trained collector of fossils and mineralogical specimens. In the limited Arctic flora he took a deep interest, and he not only collected specimens of the fauna, but also wrote detailed notes of the habits and movements of the mammals and birds, and of the invertebrates. M'Clintock brought home the first specimen of an ivory gull's egg from Prince Patrick Island.

He made collections of plants at the Whale Fish Islands, Disco, Woman Islands, Wolstenholme Sound, the Cary Islands, Leopold Harbour and coast of North Somerset, Beechey, Cornwallis, Griffith, Lowther, Bathurst, and Melville Islands in 1850–4. He made a collection of sea-weeds

from Davis Strait in June 1850 in 12 to 30 fathoms, at Disco, and off Cape Cockburn (Bathurst Island) in 10 fathoms in August 1852. He had also the botanical collection made by Mr. Miertsching, the interpreter on board the *Investigator*, on Banks Island, which was left when that ship was abandoned in 1853, but which Mr. Krabbé recovered when he visited her in 1854, and gave to Sir Leopold.

The following is a list of Arctic plants collected by Sir Leopold M^c^Clintock:

Alopecurus alpinus.—Melville Island; Wolstenholme Sound. A grass, Alpine foxtail.
Andromeda hypsoides.—Woman Islands. A small shrub.
,, *tetragona.*—Melville Island; Wolstenholme Sound.
Arabis alpina.—Disco. Rock cress.
Arenaria Rossii.—Cornwallis and Melville Islands. Sandwort.
,, *rubella.*—Port Leopold; Melville Island.
Betula nana.—Disco. A dwarf birch.
Cerastium alpinum.—Cape Riley; Lowther Island. Alpine cerast.
,, *vulgatum.*—Mouse-ear chickweed.
Cetraria Juniperina.—Melville Island.
Cochlearia Greenlandica.—Cary Islands; Woman Islands. Scurvy grass.
,, *Anglica.*—Cary Islands; Greenland.
Diapensia Lapponica.—Disco; Woman Islands.
Draba rupestris.—Whale Fish Islands; Disco; Cary Islands.
,, *alpina.*—Port Leopold; Beechey and Lowther Islands.
Dryas octopetala.—Wolstenholme Sound; Cape Riley; Griffith Island. White dryas.
,, *integrifolia.*—Wolstenholme Sound; Cape Riley.
Dufouria arctica.—Melville Island.
Elymus arenarius.—Whale Fish Islands. Lyme grass.

Empetrum nigrum.—Woman Islands ; Disco ; Port Leopold. Crowberry.
Epilobium latifolium.—Disco.
Equisetum arvense.—Disco. Common horsetail.
Festuca brevifolia.—Cape Riley. A grass.
,, *ovina.*—Disco. Sheep's fescue ; a grass.
Gyrophora polyrhizos.—Cary Isles.
,, *tesselata.*—Melville Island.
Lecanora elegans.—Melville Islands.
Lugula hyperborea.—Woman Isles.
Lychnis apetala.—Cary Isles ; Cape Riley ; Lowther Island.
Lycopodium selago.—Cape Warrender. Fir club moss.
Oxyria reniformis.—Cary Isles ; Disco. Kidney sorrel.
Papaver nudicaule.—Woman Isles ; Disco ; Griffith Isle to Melville Island. Yellow poppy.
Parrya arctica.—Port Leopold.
Poa arctica.—Melville Island ; Disco. A grass.
,, *flexuosa.*—Woman Isles ; Wolstenholme Sound.
Polygonum viviparum.—Disco. A knotweed.
Polytrichum alpinum.—Wolstenholme Sound.
Potentilla nivalis.—Woman Isles.
Pyrola rotundifolia.—Whale Fish Isles ; Disco. Wintergreen.
Ranunculus affinis.—Cary Isles.
,, *auricomus.*—Lowther Isle. Goldilocks.
Salix arctica.—Port Leopold to Melville Island. Dwarf willow.
,, *herbacea.*
Saxifraga cæspitosa.—Lowther and Griffith Isles ; Greenland. Tufted saxifrage.
,, *cernua.*—Lowther Isle ; Port Leopold ; Griffith Island. Drooping saxifrage.
,, *nivalis.*—Lowther Isle ; Griffith Isle ; Melville Island. Alpine saxifrage.
,, *flagellaris.*—Cape Riley.
,, *tricuspidata.*—Melville Island.
,, *oppositifolia.*—Port Leopold to Melville Island. Purple saxifrage.
,, *aizoides.*—Disco. Yellow saxifrage.
Sedum palustre.—Disco. Stonecrop.
Splachnidium micioides.—Whale Fish Islands.

Stellaria longipes.—Whale Fish Islands; Wolstenholme Sound.
„ *cerastioides.*—Disco. Starwort.
„ *Rossii.*—Not west of Cornwallis Island.
Taraxacum palustre.—Melville Island. Dandelion.
„ *officinalis.*—Disco.
Trichostomum lanuginosum.—Melville Island.
Trisetum subspicatum.—Disco. A sort of oats.
Vaccinium uliginosum.—Whale Fish Islands; Disco; Woman Islands. Bog whortleberry.

The fossils collected by Sir Leopold were described by Professor Haughton. North Somerset (except the north-west end, which is sandstone, part of the west coast and the shore of Bellot Strait, which are granite), Beechey Island, Cornwallis Island and its outlying islands, Fury Beach, Prince of Wales and King William Islands are limestone of the Upper Silurian age. The fossils are:

Atrypa ploca.—A brachiopod abundant in Garnier Bay and at Beechey Island in great abundance, and Griffith Island.
„ *reticularis.*
Calampora Gothlandica.—At Port Leopold and Prince of Wales Island.
„ *alveolaris.*—Beechey Island.
Calophyllum phragmoceras.—A coral. At Beechey Island and Griffith Island.
Cardiola Salteri.—A new species. Cornwallis Island.
Chætetes arcticus.—A coral.
Clisiophyllum Austini.—A coral. Beechey Island.
Crinoiad limestone, very abundant on Griffith and Beechey Islands.
Cromus arcticus.—A trilobite eminently characteristic of the Arctic Siberian region. Fine specimens at Garnier Bay, Griffith Island, Cornwallis Island, Fury Beach.

Cyanthophyllum helianthoides.—A coral. Garnier Bay.
„ *cæspitosum.*—A coral. Prince of Wales Island and Beechey Island.
„ *articulatum.*—At Beechey Island.
Favistella Franklini.—Beechey Island.
Heliotes porosa.—A coral. North Somerset.
Loxionema M Clintocki.—A turritella. N.E. Cape, Port Leopold.
„ *Rossii.*—West coast of King William Island and Griffith Island; numerous at Beechey Island.
„ *Salteri.*
Macrocheilus.—An undescribed species. Griffith Island.
Monotis septentrionalis.—A bivalve.
Orthoceras Griffithi.—Numerous on Griffith Island.
„ *Ommanneyi.*—Found in Assistance Bay.
Pentamerus conchidius.—A brachiopod. Cornwallis Island.
Stromatapora contentrica.
Strophomena Donneti.—Griffith Island.
Syringopora geniculata.—Beechey and Cornwallis Islands and Griffith Island.
Terebratula aspera.—A brachiopod. Princess Royal Islands.

The carboniferous sandstone with coal beds occupies the southern two-thirds of Bathurst, Melville, and Eglinton Islands, Byam Martin and Banks Islands. The limestone of the same period covers Prince Patrick Island and the northern promontories of Eglinton, Melville, and Bathurst Islands, as well as the Grinnell Peninsula of North Devon. The fossils collected by M^c^Clintock of the carboniferous limestone age were:

Lithostrotion basaltiforme.—A coral. North coast of Bathurst Island.
Productus sulcatus.—Melville Island.
Spirifer arcticus. Found by M^c^Clintock in Melville Island and by Sherard Osborn on the north coast of Bathurst Island.

An isolated patch of lias formation covers

Point Wilkie and the eastern side of Intrepid Inlet in Prince Patrick Island. Here M^c^Clintock found a liassic fossil in 76° N., *Ammonites M^c^Clintocki*, also part of the bone of a fossil saurian. Another bone of a saurian was found by Sherard Osborn at Rendezvous Hill on the north shore of Bathurst Island in a similar liassic patch, and another, believed to be part of an icthyosaurus, on Exmouth Island.

M^c^Clintock took great interest in the fossils of the Miocene period in Greenland, and was given several impressions of leaves by Mr. Olric at Lievely. More were collected by Sir Edward Inglefield and Admiral Colomb, and all were described in 1867 in the Journal of the Royal Dublin Society.

M^c^Clintock's hydrographical observations and discoveries were of equal extent and importance. Five times had he battled with the ice in Melville Bay, observing all the phenomena during the different seasons with the closest attention. No one had acquired such knowledge of ice movements caused by winds and currents. In the *Enterprise* he had drifted from Port Leopold to Baffin's Bay, and in the *Fox* he had drifted down Baffin's Bay and Davis Strait during a whole winter ; on both occasions provided with all the needful scientific appliances for accurately recording the phenomena of the drifts. He had also forced his vessel through the heavy south Greenland pack.

In all the expeditions in which M'Clintock served tidal observations were regularly taken, and soundings whenever possible. During the two years that he was near Melville Island he was specially keen to understand the hydrographic phenomena connected with the heavy ice forcing its way through M'Clure Strait; and when he observed the character of the floes pressing on the north-west coast of Prince Patrick Island a light dawned upon him. He began to understand that this pressure was caused by a strong drift from the great polar sea north of Siberia. In passing through M'Clure Strait such portions of the heavy ice as can squeeze into the opening continually flow down the channel now called after M'Clintock. Sherard Osborn, Allen Young, and M'Clintock himself saw this stream of heavy ice from different points, and bore their testimony that a channel filled with such tremendous masses could never be navigable. It reaches to the north coast of King William Island. It can never be crossed by a ship, therefore there is no north-west passage west of King William Island.

M'Clintock discovered the Franklin Channel and the strait between Boothia and King William Island, establishing the fact that these formed the only navigable north-west passage. Comparison of the tidal observations led Professor Haughton to the conclusion that the tides of the two oceans met nearly along the line of this ice-encumbered channel.

On the charts supplied to Sir John Franklin, King William Island was made into a peninsula connected by an isthmus with Boothia. Sir John consequently attempted to go round the west side of King William Island, and his ships were fixed immovably. If the ill-fated expedition had gone down the east side of the island, the north-west passage would almost certainly have been made, for it was a very open year.

The practical results of McClintock's discoveries and researches were to enable Professor Haughton to give a general view of the geology of the Parry Islands and of the tides and currents, and to supply material for a fairly accurate conception of the physical geography of the western side of the north polar regions.

CHAPTER XVII

DEEP-SEA SOUNDING

M'CLINTOCK was given barely eight months of rest, after his return from the *Fox*, before his services were required again. The promoters of the Grand North Atlantic Telegraph Route requested the Admiralty to have a line sounded from the Faröe Islands, by Iceland and Greenland, to Labrador, and to ascertain the nature of the bottom. The conduct of this service was offered to Sir Leopold. His friend Captain Washington, the Hydrographer, knew him to be the best man for such a service, and appealed to him to undertake it.

Deep-sea sounding, with apparatus for ascertaining the nature of the bottom, was then in its infancy. In 1818 Sir John Ross invented a deep-sea clam to bring up specimens of the bottom in Baffin's Bay. It consisted of a pair of forceps kept asunder by a bolt. When the bolt struck the ground a heavy iron weight slipped down the spindle and closed the forceps, with specimens of the bottom enclosed. In 73° 37′ N., Ross brought up a beautiful *caput Medusæ* from 1,000 fathoms, the first time any living organism had ever been

obtained from anything like that depth. In 1854 an American named Brooke invented his sounding machine for bringing up samples from the bottom. It was used by Derryman in 1854 on board the U.S.S. *Arctic* in taking a line of soundings from St. John's to Valentia, on a great circle. The result was that the bed of the Atlantic basin was found to be covered with a sediment consisting of one species of foraminifera (*Globigerina bulloides*) mixed with shells of some other foraminifera. In 1857 Lieut. Dayman was ordered to carry a line of soundings on board H.M.S. *Cyclops* (1,250 tons, 320 h.p.) from Valentia to Trinity Bay, Newfoundland, during the months of June and July, to the north of Derryman's line, also on a great circle. His sounding apparatus was a modification of that invented by Brooke. The *Cyclops* had an engine on deck of 12 h.p. for heaving in the line, with a barrel on each side, capable of holding 3,000 fathoms, fitted with a brake. There were thirty-four soundings, the greatest depth 1,750 fathoms. The fall was from 500 to 1,500 fathoms at 170 miles from the land.

The *Gorgon* was employed to take soundings from Cape Race to Fayal in 1858, and in 1859 the *Firebrand* went across the Bay of Biscay and along the coast of Portugal. Both were commanded by Lieut. Dayman.

This was all that had been done when Sir Leopold M'Clintock commissioned the *Bulldog* in June 1860 to carry out the survey desired by

the promoters of the North Atlantic Telegraph Route. There was at that time no telegraph cable between Europe and America. A cable had been laid in 1858, but had broken down irremediably after twenty days' use, and no attempt had been made to lay a second. The object of the proposed North Atlantic route was to reduce the continuous length of the cable by laying it in four sections: Scotland to Faröe Islands, Faröe Islands to Iceland, Iceland to Greenland, Greenland to Labrador. It was hoped by this means to secure a higher speed of signalling than was possible over a continuous cable of great length. The rate of signalling on a telegraph cable, other things being equal, varies inversely as the square of its length, and owing to the imperfect instruments and methods employed the rate of working on the cable of 1858 had been very slow. The Admiralty at the request of the promoters of this scheme undertook to obtain the deep-sea soundings along the proposed route, but declined to undertake the survey of the coasts of the route or the responsibility of selecting the landing-places for the cable, as it was felt that here the real and probably insuperable difficulties of the scheme would be met. This part of the work was left to the promoters of the route.

The vessel selected by the Admiralty was the *Bulldog*, a paddle-wheel steamer of 1,124 tons, 500 h.p. Like the *Cyclops*, she had a steam engine of 10 h.p. on deck, with large reels for hauling in.

She was supplied with ten of Brooke's sounding machines, and 75,000 fathoms of cod line besides 15,000 of deep-sea line. The Brooke machines supplied were those modified and improved by Lieut. Dayman: they were accompanied by 50 iron detaching weights of 96 lb. each. M'Clintock commissioned the *Bulldog* at Portsmouth on June 2, 1860, his crew being made up of drafts from the guardships, 170 officers and men. His first lieutenant was Charles Parry, second son of Sir Edward, who had already done good service in China. For his second he chose Lieutenant Grey, whose services had been refused to him for the *Fox*, and Mr. Burnett was the master. He also had an assistant surveyor from the Hydrographer's office, Mr. T. W. Reed, to assist with the sounding operations, and two young master's assistants. Dr. Wallich, the naturalist, was the son of a Dane named Nathaniel Wallich, whose great botanical attainments secured for him the superintendency of the gardens at Calcutta in 1815, and who after many laborious years died in 1854. His magnificent botanical work was published by the East India Company, and his splendid herbarium was presented to the Linnean Society. His son followed in his footsteps and was a naturalist of some eminence. M'Clintock also took his old friend Captain Conway Shipley, an admirable artist, as his guest.

The Hydrographer, Captain Washington, did not attach much importance to soundings from Faröe

to Iceland, but gave instructions that the continuous line of soundings should commence from Iceland, looking for a rapid increase of depth such as occurs off Valentia. Having rated the chronometers, swung the ship, and filled up with coal at Reikavik, Sir Leopold was to proceed with a line of soundings direct towards the south-east shore of Greenland, where in July the ice would prevent a very near approach. Proceeding to Fredrikshaab, where a collier was to meet him, he was again to fill up with coal, and then carry a line of soundings from Cape Farewell to Hamilton Sound on the coast of Labrador. After refitting at Sydney (Cape Breton), another line was to be run from Hamilton Sound to Cape Farewell, to fill up the gaps. Then a line of soundings was to be taken to Rockal. Notes by Captain Graah, the Danish explorer of East Greenland, and by Captain Rohde, the Danish Hydrographer, were supplied.

It proved to be a very arduous service. Passing through the Needles, and burning ordinarily about a ton of coal an hour, the *Bulldog* arrived at Stornaway on June 28, and at Thorshavn, the chief place in the Faröe Islands, on July 4. M^c^Clintock was much struck by the grandeur of the scenery in sailing round from Thorshavn to Westmanshavn. The work was commenced from Bezlin Head, the north-west extreme of Stromöe, a precipice 2,000 ft. high, with some remarkable pinnacles starting up from its base. Thence a

line of soundings was taken from the Faröe Islands to Iceland, and the *Bulldog* anchored at Reikavik on July 11. Fogs and bad weather gave the captain many disagreeable and anxious nights, but there was rest for a few days at Reikavik when M^c^Clintock, with Conway Shipley [1] and young Grey, visited the little geyser at Reykir. Shipley was a very agreeable companion, a great traveller, and an accomplished artist. He made a number of sketches during the voyage.

The most interesting line of soundings was from Iceland to the east coast of Greenland near Cape Vallöe, a distance of 600 miles. Thirty soundings were taken, the greatest depth being 1,572 fathoms, the descent being regular for half the distance, where all particles of volcanic origin disappeared. At a distance of 50 miles from the Greenland coast there was a sudden rise from 806 to 227 fathoms in 3¼ miles, or 1,050 ft. per mile. A place was observed where there were 748 fathoms with 1,200 fathoms round it, in 57° to 60° N. and 37° to 39° W., suggesting the subsidence of connecting land.

[1] His father, the Rev. Charles Shipley of Twyford House, was son of the Dean of St. Asaph by Penelope Yonge, a great-granddaughter of Sir John Conway, Bart., whence the name of Conway. The Dean's sister was mother of Julius, Augustus, Marcus, and Francis Hare, and grandmother of Augustus Hare. Conway Shipley, born in 1824, was a captain in the navy. He married Caroline, daughter of J. C. Parr, Esq., and was of Twyford House. His sister, Anna Maria, married Sir Walter Crofton, who held an official position in Dublin. His brother, Orby Shipley, was in Holy Orders.

In making her way to Godhaab on the west coast of Greenland the *Bulldog* was exposed to three weeks of very severe gales in an ice-encumbered sea. Paddle-wheel steamers ought never to have been sent into the ice, and it calls for great experience, seamanlike skill, and incessant care to navigate them in safety. At Godhaab a survey was made, and valuable information collected from Mr. Kleinschmidt, a surveyor and keen geographer.

On August 18 the line of soundings was commenced from Cape Farewell to Hamilton Inlet on the coast of Labrador. Fifteen soundings were taken, the greatest depth being 2,032 fathoms. The decrease in depth, on approaching the Labrador coast, was from 1,190 to 280 in 8 miles, or 700 ft. per mile. Hamilton Inlet penetrates far into the land. The *Bulldog* went up it for a distance of 115 miles to North-West River at its head, where there is a station of the Hudson's Bay Company. Mr. Donald Smith, who represented the Company, had lived there for twelve years, cultivating some of the land with vegetables, root crops, and barley, and collecting wild grass from the swamps for hay. He had a horse, half a dozen cows, goats and poultry. There are very stunted firs growing wild, and a variety of berries ; such as cloudberries, whortleberries, crowberries, cranberries, raspberries, bilberries, and stone bramble. Mr. Donald Smith furnished most valuable information and saw no difficulties in landing

ANCIENT RUINED CHURCH OF KAKORTAK

a cable. A lasting friendship was formed between M'Clintock and Mr. Donald Smith. The latter is the present Lord Strathcona.

From Hamilton Inlet the *Bulldog* went through the Strait of Belleisle to Sydney in Cape Breton, where the severity of the service led to numerous desertions. Here, to M'Clintock's great regret, Conway Shipley had to leave him, returning home by Halifax and New York. Proceeding northwards again, by Belleisle Strait and Hamilton Inlet, the *Bulldog* reached Julianshaab on the west coast of Greenland on September 29. M'Clintock, accompanied by Dr. Wallich, visited the ruins of the ancient Norse church at Kakortak, going up the fjord in his boat. This church had been built by the early Norse colony, which was completely swept away in the fifteenth century, partly by the Black Death and partly by attacks from the Eskimos. After this Greenland remained without European inhabitants until the Danes colonised it. These ruins had been examined by Graah, who made careful measurements. M'Clintock describes the situation as very beautiful, a grassy slope near the water of the fjord, with a high mountain in the background. On October 3 the *Bulldog* left Julianshaab for Iceland.

It was getting dangerously late in the season for a paddle-wheel steamer to be amongst the ice. The weather had been very bad since leaving Julianshaab, and on October 10 it blew a perfect hurricane with a tremendous sea ; and there was

so much spray that nothing could be seen for more than a ship's length. The stern-boat was stove in, one quarter-boat was washed away with the davits, a great part of the bulwarks was also smashed, and the bowsprit was carried away inside the gammoning. The ship had to lie to under bare poles, with the rudder lashed, and in this helpless condition the sponson deck was burst up, and for a long time there was great danger. On the 12th the wind went down, but there was another furious gale on the 16th, and the *Bulldog* reached Reikavik in a most dilapidated condition. Similar weather accompanied her in her voyage to Rockal, and at last she took refuge in Killybegs Harbour, on the coast of Donegal, on November 11. The *Bulldog* arrived at Portsmouth on the 20th, half a wreck, and her captain, after this very difficult and severe service, received the full approbation of the Lords of the Admiralty.

For the selection of landing-places for the cable and necessary coast surveys which had been undertaken by the promoters of the route, they bought the *Fox* from Lady Franklin, and entrusted the command to Allen Young. He had an able assistant in Captain Davis, of the Hydrographic Office, who was a very accomplished artist and draughtsman, and had served in the Antarctic expedition under Sir James Ross. Allen Young visited the same places as the *Bulldog*, carefully sounding the depths of fjords and inlets; so that while M'Clintock's deep-sea

soundings would have been a guide in the selection of the most suitable route for the deep-sea lengths of the cable, the information furnished by Allen Young would have directed the construction of the more massive cables to be laid in the inlets of the coast. Ultimately, owing to the impossibility of finding suitable landing-places for the cable free from the destructive action of ice, to say nothing of the difficulties and cost of maintaining a staff of clerks in such remote and inhospitable spots, the scheme was abandoned, and the cable was never laid. But the lines of soundings taken by the *Bulldog* were of permanent scientific value.

It is interesting to read the opinion formed by Charles Parry of Sir Leopold McClintock:

"I could not," he wrote, "have conceived so much calmness to have been the property of any one man. In the greatest difficulties, and under the most aggravating circumstances, his face would not alter a muscle, and except occasionally a little quiet chuckle and a rub of the hands, he would show no symptom of noticing changes in weather, position of the ice, or other intensely interesting matters. Steady watchfulness, and a quick, decided order, though in a very low tone, was his *régime* for a change for the worse. No outward show of anxiety, no nervous irritability, no unnecessary noise, ever betokened an anxious mind, though in his own quiet way, to me he has let out how deeply anxious he was on several occasions. And well he might have been! No one could have passed the same time with him in similar situations, without gaining confidence in him,

week by week, until the pinnacle of confidence that man can place in man has been reached."[1]

Sir Leopold McClintock read a paper to a meeting of the Royal Geographical Society on the Surveys of H.M.S. *Bulldog* on January 28, 1861.[2] For his great scientific services, and without any solicitation on his part, he was elected a Fellow of the Royal Society in 1865.

[1] "Memorials of Commander Charles Parry, R.N.," by his brother, Edward Parry, D.D., Bishop of Dover (Strahan & Co., 1870), p. 219.

[2] R.G.S. Proceedings (1860–1), vol. v. p. 62.

"Remarks illustrative of the Sounding Voyage of H.M.S. *Bulldog* in 1860" (published by order of the Lords of the Admiralty), p. 12.

"The North Atlantic Sea-bed." Diary, by Dr. G. C. Wallich, D.D., 4to, with plates of the organisms collected.

CHAPTER XVIII

FRIGATE COMMISSIONS—COMMODORE AT JAMAICA—CANDIDATE FOR DROGHEDA—MARRIAGE

IN resuming a useful career in the regular line of the service, McClintock brought qualities with him which had been trained to the highest point of efficiency. He was a leader and inspirer of men in various spheres of action, and acquired such influence over men's minds, that those who worked with him or served under him felt the most unbounded confidence in his judgment and indomitable resolution. This influence came without any apparent exertion on his part. He gave the impression of having a great reserve of power. His self-abnegation and reticence, his modesty and total absence of personal vanity, were, no doubt, the complement of that calmness in the face of danger, and that unswerving determination, which formed some of the main features of a very unusual and remarkable character.

In February 1861, McClintock was appointed to the *Doris*, a 32-gun frigate in the Mediterranean, in succession to Captain Heathcote. He passed a pleasant week at Malta, waiting for the arrival of the *Doris*. On April 9 he drove with an old

messmate and his wife to the Phœnician ruins of Hagiar Chem, near the village of Casal Crendi. He took a great interest in these rather mysterious remains, and afterwards went with his friends to the Library at Valetta to see the carved stones and *kabiri*, which had been found among the ruins. At Hagiar Chem are the outlines of those roofless temples to the Sun, where the tempest-tossed mariners of Phœnicia landed to bury their dead and worship their Deity. It was this idea of a resting-place for those earliest discoverers to and from the far west which took M'Clintock's fancy. The *Doris* arrived on the 13th, and her new captain took command. D'Arcy Irvine, the son-in-law of Sir Horatio Austin, was the first lieutenant. The first cruise was to Naples and the ports of Sicily.

In November the *Doris* was sent for a cruise to Beyrout and Alexandretta; in January 1862 she was for a fortnight at Gibraltar, returning to Malta on the 24th. At this time, soon after the Prince Consort's death, the Prince of Wales went for a tour in the East with his sister and brother-in-law, the Crown Prince and Princess of Prussia. They went in the *Osborne*, and the *Doris*, being appointed to form an escort, proceeded to Alexandria, where she arrived on March 2, 1862. While the Royal party went up the Nile, M'Clintock visited Cairo and the Pyramids with some midshipmen, of whom he had no less than fifteen on board. The universal way of getting about was

on donkeys. The Prince of Wales rode on one at Cairo, attended by his suite, and was much amused at its name, which was "Captain Snooks." The *Doris* continued to form an escort to the *Osborne* at Jaffa, Kaifa, Beyrout, Tyre, Tripoli, and thence to Rhodes. While the Royal party was travelling through Palestine and Syria, M^c^Clintock had an opportunity of visiting Jerusalem. The *Doris* continued in attendance at the Piræus and the Ionian Islands, returning to Malta on June 5. For a period of three months Sir Leopold had been in attendance on the Prince of Wales, who ever afterwards felt a regard for him, and on more than one occasion befriended him in a very special way. After a visit to Bighi Bay in July, and another cruise to Naples and the Sicilian ports, the *Doris* again formed an escort for the *Osborne* from Palermo to Tunis, in October 1862. M^c^Clintock paid a visit to the ruins of Carthage with the Royal party. The Crown Princess of Prussia had read his book and was most gracious to him. The *Doris* was paid off at Plymouth on December 27, 1862.

Sir Leopold M^c^Clintock commissioned the *Aurora* frigate at Devonport on November 18, 1863, and in March 1864 she was in the Downs with the fleet of Admiral Dacres. The Austro-Prussian army had invaded Denmark, and it was reported that an Austrian squadron was on its way from the Mediterranean to protect the mouth of the Elbe and repel any attack from the Danes. The

Aurora was, therefore, ordered to proceed to Heligoland, with the *Black Eagle* as a tender, to watch events and protect British commercial interests. The Austrian squadron consisted of the *Schwartzenburg* (50 guns), Commodore Tegethof, the *Radetsky* (36 guns), and three gunboats. They were at Cuxhaven, and Sir Leopold went there, in the *Black Eagle*, privately and in plain clothes, to obtain information, leaving the *Aurora* at Heligoland. On hearing that the Austrians intended to sail for the Baltic at daylight, he immediately returned to the *Aurora*, and put to sea, standing to the northward under easy sail. The allied squadron was seen to come out of Cuxhaven and steer towards the *Aurora* under full sail, but, on ascertaining her nationality, they steered back towards Heligoland and Cuxhaven. The *Aurora* also made her way southwards. This was on May 7. On Sunday, the 8th, the Danish squadron under Admiral Suenson made its appearance, consisting of the *Niels Juel*, 44 guns, *Jylland*, 42 guns, and *Heimdal*, 17 guns. A lieutenant was sent on board the *Niels Juel*, and Admiral Suenson told him to inform the captain of the *Aurora* that he hoped to engage the Austrians the next day.

On the 9th the *Aurora* was again at anchor off Heligoland, and the Danish squadron was seen, steering to the south. At about noon the Austrians came in sight, heading to the north-west. Sir Leopold then got the ship under way, and steamed

so as to be three miles from the island, showing the limit of neutral waters. At 2 p.m. the hostile squadrons were seen to be closing on each other, and a quarter of an hour afterwards the Austrian opened fire. Immediately both squadrons were engaged, with shot and shell, steaming round in a circle, with a diameter of 1,000 yards. The battle was hotly contested for more than an hour, when the Austrian commodore's ship was observed to be on fire. A shell from the *Niels Juel* had burst in her fore-top. There was dense smoke, and the *Schwartzenburg* was seen coming out of it, with her fore-mast and fore-rigging in a blaze, and her forecastle burning. She was followed by the *Radetsky* and the gunboats. The Danes steered across their sterns and fired into them, and at 3.40 p.m. the last shot was fired by one of the gunboats. As she came near the *Aurora* the fore-topmast of the *Schwartzenburg*, which was burning, went short off. The *Radetsky* had a shot through her steam pipe, and many shot holes on her port side. By their prudent flight the Austrians escaped into neutral waters. The victorious Danes returned to Copenhagen. It was a beautiful day with the water perfectly smooth. Sir Leopold sent the *Black Eagle* home with dispatches the same evening. He also sent a boat to the *Schwartzenburg*, offering medical aid, which was declined. Next day the Austrians escaped to Cuxhaven.

Sir Leopold passed a great part of the afternoon

at the main-topmast head of the *Aurora*, witnessing the engagement. He had been very clever in finding out the movements of the Austrians; but the necessity he was under of avoiding international complications, by maintaining the neutrality of the Heligoland waters, prevented the Danes from following up their success. This naval action of Heligoland has a special interest, because it was among the first that was fought under steam and in which shell was used. When afterwards Admiral Tegethof won the battle of Lissa, he is reported to have said that he learnt how to fight from the Danes.

On May 18 the *Aurora* had returned to the Nore, and in June she was at Portsmouth. During the summer there was a cruise to Norway, and Prince Alfred took a passage in the *Aurora* to join his ship. On his return Sir Leopold received the best thanks of the Queen for taking such care of Prince Alfred, with the assurance of her deep sense of his kindness and attention to him. In August the *Aurora* was selected as an escort to the *Osborne*, during the visit of the Prince and Princess of Wales to the Baltic. Sir Leopold was at Copenhagen with them, where he dined several times at Court, and was presented to the Crown Prince of Russia, the intended husband of Princess Dagmar. The *Aurora* also went to Stockholm with the Royal party. The Prince and Princess of Wales passed five weeks in Denmark and ten days in Sweden, returning by way of Lübeck on

October 22. This was a very pleasant cruise, and McClintock enjoyed it thoroughly, especially rejoicing that his old friend Petersen's book on the *Fox* voyage was well received, and had become a favourite present for giving to Danish boys.

Soon after the return of the *Aurora* to Portsmouth, she was ordered to the West Indies, and in February 1865 she was at Barbadoes. At Dominica an event occurred which showed how useful a knowledge of negro nature may prove. The Legislative Council determined to pass a bill which for some reason the negroes objected to. There was a riot on the day fixed for the meeting, and the Council House was surrounded by a mob of negroes who intended to prevent members entering the House.

H.M.S. *Aurora* had arrived and landed the marines armed, also every available man with sticks and stretchers suitable for use against the natives' shins. The band was also landed.

The marines were stationed in the Council House, while the band was directed to play at some distance from it. The negroes round the House were very violent and had to be cleared out by the marines. Although ball cartridge was served out, strict orders were given to prevent it being used, unless absolutely necessary. While the marines were engaged in clearing the House, a private was struck by a stone thrown. In his anger he whipped out a cartridge and would have

fired had not Sir Leopold observed him, and stopped him in time.

In the meantime the band was playing lively music, which very soon proved far more attractive to the negroes than rioting, for they crowded round the band, and soon forgot the hated Council altogether.

The band, having collected a goodly audience, marched away through the town and out into the country playing martial airs, and followed by the now happy population.

The members of the House were consequently able to pass their act in peace, while the negroes spent a most delightful day in the country.

The *Aurora* visited most of the islands, giving afternoon dances, which afforded much pleasure to the inhabitants. She was also at La Guayra and Demerara. The summer passed away, and on October 25, 1865, Sir Leopold received his commission as Commodore at Jamaica, with his broad pennant on board the *Aboukir*. As Commodore he had an official residence at Port Royal, and had little to occupy him beyond keeping the small dockyard in perfect order, which he was sure to do. In July 1866 he drew up a complete and detailed statement of the sledge-travelling equipments, from his Arctic Journals. It is valuable as the final result of his matured experience.

At Port Royal he was again in close intercourse with his old friend, Dr. Donnet of the *Assistance*, who was also serving in Jamaica.

The period of Sir Leopold's service at Jamaica was immediately after the negro insurrection, and during the subsequent persecution of Governor Eyre. In a letter quoted by Professor Tyndall, Sir Leopold wrote:

"Eyre is a noble fellow, a man of whom England may well be proud; he acted vigorously in a great emergency, and saved the whole white population of the island from massacre. He behaved with cool judgment and a clear conscience. He stands higher in my estimation at this moment than he did previous to the late events, which have proved him to possess great qualities."

Yellow fever was rampant through most of the two and a half years of Sir Leopold's command. He was always in and out of the hospital, and though he had a cottage in the hills, he used it as a place of rest for others, only spending, in all, one week in it himself. He felt that his presence in Port Royal diminished the fever panic. But his health suffered from this devotion to duty, and he asked to be relieved six months before his three years ran out. He returned to England in the summer of 1868.

There appeared to be no immediate prospect of employment, and there was to be a general election in the autumn. Sir Leopold was approached by the Carlton Club to contest the Irish borough of Drogheda in the Conservative interest. His family had for several generations represented their own or neighbouring counties, and it was hoped that

his name, coupled with his own naval reputation, might win a difficult seat in his native county. After a short stay in London, and a visit to his friend Shipley at Twyford, he went to Dublin and issued his address on November 11. He wrote to his friend Dr. Donnet, of the old *Assistance*, that he was doubtful of success because "your clergy are against me," [1] but that showers of rotten eggs and other offensive missiles, interlarded with abusive epithets, would only add to the fun of the thing. He made a fairly satisfactory canvass, though the priests denounced those who voted for him. The nomination was on the 18th, and the polling was to be on the 20th, but the enemy had organised disgraceful scenes of violence. Voters coming by train were attacked by mobs at the station, beaten and wounded. The military were compelled to act, and one rioter was shot dead. Those who reached the polling place were in danger, and, among others, old Mr. Dunlop of Monasterboice House, aged eighty-eight, was severely maltreated. In order to put a stop to the rioting and to save life, Sir Leopold withdrew after polling 130 votes under police protection, intending to petition against the other candidate's return.

Sir Leopold was staying with his cousin, Lord Rathdonnell, at Drumcar, but he felt he could not leave the country without calling at Monasterboice House to ask after old Mr. Dunlop. It

[1] Dr. Donnet was a Roman Catholic.

was a long drive on a wet November day, and Mr. Dunlop was so much pleased at the visit that he invited Sir Leopold to stay at Monasterboice during the trial of his election petition in the neighbouring town of Drogheda. The trial was before Judge Keogh, from January 15 to 19, 1869. The election was declared void, and the losing side was sentenced to pay the costs of the trial. There was another election, but Sir Leopold did not stand again. The chairman of his committee wrote:

"The Conservative and the independent portion of the Liberal party in Drogheda will not soon forget the manly and independent spirit with which you fought their cause; and although defeated by mob violence and intimidation, the complete success of your petition to set aside a return obtained by such means rendered a signal service to the cause of freedom of election."

During the visit to Monasterboice, Annette Elizabeth Dunlop, a grand-daughter of old Mr. Dunlop, with her parents, was staying in the house, having been invited to come and entertain the guest. In this way McClintock and Miss Dunlop came to know each other. Her father, Mr. R. F. Dunlop, afterwards succeeded to Monasterboice House. Her mother, Anna Skeffington, was a daughter of Viscount Ferrard, and of Viscountess Massereene in her own right.

Sir Leopold was in London during the spring of 1869, having been elected a member of the

Council of the Royal Geographical Society in the spring of that year. He became a rear-admiral on October 5, 1871.

The marriage between Sir Leopold M'Clintock and Annette Elizabeth Dunlop took place from the house of the bride's grandfather, on October 12, 1870, at Mellifont church, where the bride had been christened, and which the family had always attended, the ceremony being performed by the Rev. Robert Le Poer M'Clintock, who held a living near Drumcar. The following extract from a letter written at the time of her marriage shows the feeling among Sir Leopold's brother officers:

"I was delighted to hear of your marriage with Sir Leopold, and you will not mind my saying that I am sure any woman might be perfectly happy with a man who has universally gained the hearts of those who have served under him. Our tribunal in the navy is very severe but very just, and no rank escapes its decisions. When a man makes a great name for himself in the navy he is as well known to the rest of the profession as their brothers, probably much better."

CHAPTER XIX

THE FLAG FLYING

SIR LEOPOLD M^cCLINTOCK, after his attainment of flag rank, had a long and useful life before him, devoted to administrative work and the fulfilment of many duties. After his marriage, Sir Leopold and Lady McClintock came to London to 2 (now 12), Eaton Terrace, where the Admiral busied himself in many ways, among others serving on the Councils of the Royal Geographical Society and the United Service Institution. But on April 29, 1872, he was appointed Admiral Superintendent of Portsmouth Dockyard, which post he held for the full five years. During 1874 and 1875 he was able to renew his Arctic memories in fitting out the expedition which was dispatched in the latter year.

Sherard Osborn lamented the discontinuance of polar exploration, and when he began to advocate a resumption of Arctic work in 1864, he had the sympathy of McClintock. Just before he sailed for the West Indies in the *Aurora*, McClintock wrote to Osborn to supply him with details of information on several points, and said:

"I am glad to know that you are poking up the embers so as to keep the Arctic pot boiling. I wish I were now preparing for a trip to the North Pole, for I regard it as being within the reach of this generation."

Osborn and his colleague[1] obtained the support of the Council of the Geographical Society for an expedition to explore the part of the unknown region beyond Smith Sound, but not to reach the pole as a main object. It took ten years of very hard work before the Government could be induced to undertake an expedition, and when the Admiralty drew up instructions for its commander, they were not in accordance with the views so long advocated by the Council of the Geographical Society. The scope and primary object of the expedition were announced to be the attainment of the highest northern latitude, and if possible to reach the pole.

As Admiral Superintendent at Portsmouth, the equipment was entirely in the hands of McClintock. He selected the *Alert*, a 17-gun sloop, as the first ship. For the second he bought a whaler at Glasgow which, as regards build, steam power, and size, was admirably adapted for the work. She was named the *Discovery*. Both ships were thoroughly strengthened and adapted in every way for Arctic service under the superintendence of Sir Leopold. All the internal fittings were

[1] Another old messmate worked with Osborn in his advocacy for a renewal of Arctic enterprise.

arranged with a view to comfort and the preservation of health, though a steamer, in which the engine-room and boilers act as a huge refrigerator in its centre, could never be so well adapted for an Arctic winter as a sailing vessel. Each vessel was supplied with nine boats, two fitted for whaling, and three light ice-boats. With M^c^Clintock as the organiser, all the equipments for sledge travelling were as near perfection as human skill and foresight could make them. The Admiral had the help of Dr. Lyall and Mr. Lewis, both of whom had served in the old *Assistance*, in matters relating to clothing and provisioning.

Captain Nares was appointed to the command of the expedition. He had been a mate in the *Resolute* twenty years before, and Mecham spoke highly of his services when he travelled with him in command of the supporting sledge. He had since been chiefly engaged in surveying work, and was the author of an excellent book on seamanship. He was recalled from the command of the *Challenger* for this Arctic service. Lady M^c^Clintock worked him a silk Union Jack embroidered with his crest and motto on one side, and rose, thistle, and shamrock on the other. On May 29, 1875, the expedition sailed from Portsmouth, accompanied by Sir Leopold and Lady M^c^Clintock in the Admiral's yacht, and by Allen Young, in Lord Harrington's yacht, as far as Spithead.

In 1875, and again in 1876, Allen Young went

up Baffin's Bay in his steam yacht *Pandora*, on the first voyage mainly, and on the second entirely, for the purpose of communicating with the expedition, and carrying their mails to them. M^c^Clintock took great interest in these voyages of his old shipmate, especially in the first one, when Allen Young attempted to reach his north-west passage. The *Pandora* passed Ross's farthest, and was within 10 miles of Cape Bird, the northern portal of Bellot Strait. But here there was an impenetrable barrier right across the channel, and Allen Young had reluctantly to return. It was evident that if a clear ice year were chosen, the north-west passage might easily be made. It was with no ordinary feelings that Allen Young visited the scene of his dreadful march in 1859, when he and his sledge crew had to wade up to their thighs in water and were nearly broken down with the fatigues of three months of continuous Arctic travelling.

The Arctic expedition returned to Portsmouth on November 2, 1876. Geographers were well satisfied with the results. Three hundred miles of new coast-line had been discovered, and the scientific researches were extensive and of great interest. Considerable light was thrown on the general problem of Arctic geography.

But the instructions of the Government were to attain the highest northern latitude, and if possible to reach the North Pole.

When Captain Nares arrived at his winter

quarters in 82° 27′ N., he saw excessively heavy ice in the offing, and no land trending north. He, therefore, gave up any attempt to carry out his instructions in the next season. His decision was to send two parties to the north, each dragging an ice boat in case the ice should break up. He knew that this could only be done by relays, involving very slow progress and great labour. He never expected them to get further than 84°. They actually reached 83° 20′ 26″ N. If their report was favourable, he thought of ordering another attempt to be made in the season of 1877. He also decided to send two other parties to east and west, to see if either coast trended to the north. Owing to an outbreak of scurvy he came home in 1876, so that his intentions respecting the season of 1877 never came to maturity.

McClintock never said a word in disparagement of the expedition. But if he had been in Captain Nares's place, the course he would have adopted would have been very different.

During the fitting out of the expedition, Sherard Osborn was constantly at Portsmouth, becoming acquainted with the officers and relating his experiences. There was a charm about his conversation which won especially upon young men. His death took place with awful suddenness on May 6, 1875. The expedition was very largely represented at his funeral. No two men could be more different than McClintock and Sherard Osborn, yet their friendship continued to the end.

Osborn's friends were many. He was a man of fascinating personality, and was beloved by all who served under him. When he had his own way, under Sir Edmund Lyons and Lord Elgin, he was a perfect subordinate. Still, he was a better man for those who served under him than for those under whom he served. He would do anything for a shipmate, and there never was a truer friend in this world than Sherard Osborn.

M^c^Clintock received the special thanks of the Admiralty for his services in fitting out the Arctic expedition. The other official events during his term of office were the launch of the *Inflexible* in 1876, the return of the Prince of Wales from India in May of the same year, and the return of the troops from the Ashanti expedition. The Admiral felt for the wives and children of soldiers from India, having to endure the cold and exposure of an English winter on landing. He arranged for a covered place, with coffee and refreshment for them as they landed. The "Transport Guild" for providing them with warm clothing on board, as they came into a colder climate, was also started by him.

Sir Leopold was a steady friend to Miss Robinson's work among soldiers, and still more to Miss Weston for the men of his own profession. These two good works were then in their infancy. Miss Weston's first meeting was held in the Admiral Superintendent's drawing-room. Sir Leopold became one of her original trustees, and Miss Weston

wrote that she doubted whether her work would have ever attained its present importance if it had not been for the Admiral's help at its beginning.

The term of office at Portsmouth was a busy but a peaceful and a happy time. When it came to an end in May 1879, the McClintocks took a house in London (29, Kensington Gate), and Sir Leopold was again elected on the Councils of the two societies in which he had always taken a deep interest. In November 1879, Sir Leopold was appointed Commander-in-Chief of the North American and West Indian station, having attained the rank of Vice-Admiral on August 5, 1877. His flag was hoisted on board H.M.S. *Northampton*, and he sailed for Bermuda with his wife and four children in December 1879. The eldest had been born at Dublin, the three next at Portsmouth, the fifth and youngest came into the world at Halifax.

Mr. W. H. Smith was then First Lord of the Admiralty, and an interesting anecdote is told of him when the McClintocks were starting for the North America command. He gave them a small farewell dinner, and towards the end he said to Lady McClintock that he wished to say a few important words to her.

"I want you," he said, "to help me to break an abuse which has grown up on the North American station, and which has turned the winter cruise of the squadron into a pleasure-cruise for the ladies of the Admiral's family, instead of a service-cruise

for evolution and practice, as it ought to be. So I ask you not to accompany your husband on those occasions, but to remain at Bermuda."

Needless to add that the wishes of the First Lord were carried out to the letter.

The *Northampton* was a very happy ship, and the subsequent record of its officers is remarkable. Sir Leopold chose as his flag captain the present Admiral Sir John Fisher, who, when to his Admiral's great regret he was recalled to command the *Inflexible*, was succeeded by Admiral Drummond, since Commander-in-Chief on the East Indian station. The commanders were the present Admiral Swinton Holland, succeeded by the officer who is now Admiral Sir Wilmot Fawkes. Among the lieutenants were Admiral Sir Edmund Poë and Admiral George Le C. Egerton, C.B., who had distinguished himself in the Arctic expedition of 1875–6. Lionel Wells, a sub-lieutenant in the *Northampton*, became afterwards head of the London Fire Brigade. The flag lieutenant was E. B. Van Koughnet, who afterwards served with distinction in the Nile expedition under Sir Charles Wilson, where he was severely wounded. After his retirement he again came forward, and served as Naval Transport Officer at Durban in the South African war. The Admiral's coxswain, Thomas Jolliffe, was also an Arctic traveller. The time, during this command, was a particularly happy one, and the relations between the Admiral and those who served under him were cordial.

Lieut. Younghusband. Lieut. Montgomery. Lieut. Egerton. Lieut. Pretyman. Lieut. D. Riddell.
Commander W. Fawkes. Capt. J. A. Fisher. Lieut. E. S. Poë.

p. 282] H.M.S. *NORTHAMPTON*, 1880

This was especially the case as regards the senior officer on the coast of Newfoundland, on whose judgment it was very important that the Admiral should have perfect reliance.

Captain Kennedy of H.M.S. *Druid* was senior officer in Newfoundland, for the protection of fisheries during the summer months. It was his duty to maintain harmonious relations with the French, while their rights under the Treaty of Utrecht caused constant friction between the fishermen of the two countries. Captain Kennedy (now Admiral Sir W. Kennedy, K.C.B.) writes :

"No sooner had Sir Leopold arrived on the scene when all ran smoothly, and perfect harmony prevailed. I well remember going on board the flagship at Bermuda to receive my final orders before leaving for St. John's. I begged Sir Leopold to believe that my earnest desire was to carry out his instructions in the spirit as well as to the letter, and if there was anything he wished done it would be faithfully carried out. He patted me on the shoulder and said he was sure it would be the case, and from that time I felt that I had a friend in my chief, for whom it would be a pleasure as well as a duty to serve. From that time there never was any trouble. Sir Leopold was familiar with the intricacies of the so-called French shore question, and I used to keep him informed privately how things were going on, and ask his advice when in doubt. I can only conclude this very slight and imperfect sketch of my beloved chief, by saying that from him and from Lady McClintock I and all who served under him received the greatest courtesy and kindness, and we shall ever recall the happy days we spent under his command."

In April 1880 the late Duke of Clarence and the Prince of Wales, serving as midshipmen in the *Bacchante*, were guests of the McClintocks for some days, in their house at Bermuda. In the same year the McClintocks visited Quebec, and were the guests of Lord Lorne at the citadel. The citizens gave a magnificent ball in honour of the Admiral, much to the gratification of the Governor-General, as party feeling had been running high between the French and English sections of the population. Lord Lorne said that he did not think, just then, they could have united to pay this honour to any other Admiral in the service, but that Sir Leopold's name was a power.

During the North American command Sir Leopold received the details of visits to King William Island by Mr. Hall and Lieutenant Schwatka. The former had collected a few relics, and got some unreliable stories from Eskimos, along the south coast of the island. Lieutenant Schwatka had effected his purpose with the aid of natives and their dogs. He traversed the west coast of King William Island in the summer of 1879, when game was abundant, and the snow was off the ground. He went as far as Point Victory.

Sir Leopold studied the narratives with great care, and gave full credit to Schwatka for his very remarkable journey. He was glad that his own work underwent this examination, because it verified all he had done or said. They added nothing of any importance. These visits to the

ground rendered sacred by the sufferings of our gallant countrymen made it very desirable that Mr. Murray should publish a sixth edition of the "Voyage of the *Fox*," with a chapter on the journeys of Hall and Schwatka. This was a very troublesome task, owing to the discrepancies between the accounts of Schwatka and his companion, Gilder, and to the loose style in which they wrote. With regard to Hall it was difficult to arrive at what he really did. The new chapter is correct in every detail, having been very carefully prepared by Sir Leopold while at Halifax. With this valuable addition the work was stereotyped.

Sir Leopold's brother Alfred had been his constant correspondent during the Arctic voyages, and his house at 21, Merrion Square was Sir Leopold's home when he was in Dublin. Alfred was an eminent physician with a very extensive consulting practice. He was LL.D. of Edinburgh, and in 1880 and 1881 was President of the College of Surgeons of Ireland. In the autumn of 1881, in hopes of recovering the tone of his constitution, he went for a cruise with his brother on board the *Northampton*. But he was taken ill on his return and died on October 21, 1881.

Sir Leopold was fortunate in holding the West Indian command for the full three years, as, towards the end, the death of even one man senior to him would have made him a full admiral and would have brought him home. On his return in

January 1883, knowing that his compulsory retirement was approaching, he threw his unabated energy more than ever into work outside the service.

As it turned out, he was not promoted to the rank of full admiral until just before his retirement for age in 1884, and even this would not have come to him but for the intervention of one to whom he felt sincere gratitude. This timely intervention induced a senior admiral to retire voluntarily, only just in time to give Sir Leopold his promotion. There was not a day to spare.

ADMIRALTY HOUSE, CLARENCE HILL, BERMUDA

CHAPTER XX

STRENUOUS WORK TO THE LAST

"Hero and Saint—Great Spirit, freely given,
Thy life to Britain, and thy soul to Heaven—
Saint, lead the way to God's Eternal Home;
Hero, inspire immortal deeds to come."

THERE was no cessation of work after the flag was hauled down. Sir Leopold was again placed on the Councils of the Royal Geographical Society and the United Service Institution, as well as on the Committee of the National Life-Boat Institution. He worked hard for the Royal Naval Scripture Readers' Society, becoming first its Chairman and then its President; and for the Royal Alfred Aged Merchant Seamen's Institution, of which he was chairman for over twenty years. He also took a great interest in politics, joining the Primrose League and other local Conservative bodies, and working for the Unionist cause. A letter he published at this time was much talked of, and certainly exercised some influence. It was just before the breaking off from Mr. Gladstone's leadership of the Liberal-Unionists on the Home Rule question.

"CONSCIENCE AND PARTY

"To the Editor of *The Times*

"Sir,—

"I am only one among thousands who are rejoicing in your manly and patriotic articles on the Irish Question, which no doubt have convinced many. But, after all, the fate of Mr. Gladstone's measure will turn on the vote of the House of Commons.

"I regret to say that I am still frequently told in society of members who openly say, 'We do not approve of the Bill, but we must vote with our party.' What seems to me to be wanted at this juncture is a more tender conscience, a higher sense of political morality and honour, so that a man dare not record his vote where his convictions are not in accord.

"No exigencies of party Government ought to require of an English gentleman to do an act which in private life would be held to stain his honour.

"Unless we awaken to this conviction in time, we may reach the unhappy fate of some nations in which men of honour serve in all business callings but look upon the political service of their country as pitch which no man can touch without being defiled. Men who embrace Parliamentary life ought to consider themselves enrolled in the service of their country, and they should not degrade their position into that of the mercenaries of the middle ages, following a self-chosen leader, and drawing the sword in any and every cause he chooses to espouse.

"I consider the position of public men to be such that they ought to follow their party leaders only so far as they serve their country.

"Will you exert your great influence by throwing a strong light upon this subject and pointing out

where allegiance to party should end, and where individual political independence and duty to the State should become the paramount consideration.

"You could do very much to purify our political atmosphere from that which now threatens to degrade the House of Commons, and to work ruin to our country; and work it swiftly too, if our Liberal and Radical M.P.s, under a mistaken sense of loyal duty, tamely vote for the second reading of Mr. Gladstone's bill—simply because it is his. One would almost imagine that such M.P.s have inspired the lines of the Poet Laureate,—

> His honour, rooted in dishonour, grew;
> And faith, unfaithful, kept him falsely true.

"I remain, Sir, sincerely yours,
"(Signed) F. L. McCLINTOCK."

"29, KENSINGTON GATE, W.
"*April* 22, 1886."

It was Sir Allen Young who first suggested to Sir Leopold that he should offer himself for election as an Elder Brother of the Trinity House. He at once recognised in it a field of usefulness, and acted upon the suggestion. He was unanimously elected on February 15, 1884, and entered with great zeal upon his new duties. For many years afterwards he astonished on-lookers by the youthful activity and energy with which he mastered the details of work new to him. He took part in the duty cruises of the Trinity yacht, thinking nothing of being up at five in the morning, inspecting rock lighthouses and lightships. He served upon some important commissions on signalling and telegraphic communication with

rock lighthouses. Several times these duties took him abroad, once to Denmark. He also visited the Shetland Islands on Trinity House work. He was constant in his attendance at the Boards at the Trinity House, and was a much-loved and honoured member of that ancient corporation. The Deputy Master of the Trinity House gave this touching verdict of his colleague: "We always looked upon him as the Bayard of the Trinity House, without fear and without reproach."

As the representative of the Trinity House he became a Director of the London Assurance, which entailed a weekly attendance. His duties obliged him to live in London, and henceforward the home was in Kensington.[1]

He continued to work on the Council of the Royal Geographical Society, taking great interest in its proceedings, and latterly he was Vice-President. He was awarded the good service pension in 1887, but received no honour beyond what he called his "Arctic" knighthood until 1891, when he was created a Knight Commander of the Bath, thirty-two years too late. This he both knew and felt, but he did not allow it to trouble him. For he was ever of General Gordon's opinion, that men should seek for honour, not for honours.

M^c^Clintock never swerved in his lifelong devo-

[1] At first 29, Kensington Gate. In 1888 they moved to 8, Atherstone Terrace, and in December 1901 purchased 16, Queensberry Place.

tion to all that related to polar enterprise. He strongly approved of the commemoration of the fiftieth anniversary of the departure of the Franklin expedition, being especially interested about the visit to Greenwich to see the Franklin relics; and he lent his sledge, and the silver model of the *Fox* presented to him by Lady Franklin, for the small exhibition that was got together. In his speech at the meeting on May 20, 1895, he testified in eloquent terms to the splendid work of the men composing his sledge crews, and gave a most interesting account of his reasons for the conviction that the ill-fated remnant of Franklin's crews landed under conditions of perfect discipline, and that the closest attention was given to their comfort and safety by their officers, though it was a forlorn hope. Sir Leopold concluded his speech with these memorable words:

> In laying down their lives at the call of duty our countrymen bequeathed to us a rich gift—another of those noble examples not yet rare in our history, and of which we are all so justly proud, one more beacon light to guide our sons to deeds of heroism in the future. These examples of unflinching courage, devotion to duty, and endurance of hardships are as life-blood to naval enterprise.

He also worked hard for the Naval Exhibition of 1891, being the chief organiser of the Arctic section, for which he lent many valuable exhibits.

In the arrangements for the dispatch of the

National Antarctic Expedition, Sir Leopold took the deepest interest; and no living man could give such valuable advice, and with such authority, as regards the wintering, the sledge travelling, and the best lines for the ship. He looked upon the vessel he selected at Glasgow in 1874, and named the *Discovery*, as the best type of ship for polar work. Mr. W. E. Smith, C.B., the naval architect who designed the Antarctic ship, in his paper[1] on the subject wrote:

On the afternoon of April 17, 1899, I met Sir Leopold McClintock and Sir Clements Markham, and discussed with them in outline what they desired, and the best steps to be taken to secure the realisation of their wishes. This meeting constituted the inception of the design of the *Discovery*.

Sir Leopold continued to give his invaluable assistance and advice on the Ship Committee. His paper on Arctic Sledge Travelling formed an important section of the "Antarctic Manual." Anxious for the interests of Captain Scott on his return, Sir Leopold sent to the Admiralty a copy of the letter giving him sea-time in the *Fox*, in 1859, Scott's case being exactly parallel. He pleaded his own case as a precedent for the same reward to be extended to Captain Scott; which was accordingly done.

[1] "On the Design of the Antarctic Exploration Vessel *Discovery*," by W. E. Smith, C.B. Read at the meeting of the Institution of Naval Architects, April 12, 1905.

As old age advanced, McClintock faced the illnesses which accompany it with patience and fortitude. He was very happy in his family relations. A sympathetic and devoted wife was his constant companion, and he had five children, three sons and two daughters.[1] He carried on his duties unremittingly until failing sight somewhat curtailed them. Yet he continued to attend the meetings at the Trinity House and London Assurance to the very last. One of the latest public movements in which he took part was the establishment of an annual service at St. Paul's Cathedral for seafarers, to be held as near Trafalgar day (October 21) as possible. His first serious illness was in May 1901, when, contrary to all expectation, he made a good recovery. He after-

[1] The good tone of his early home was reproduced in his own family, where perfect union prevailed, together with intense love and respect for their father. The children are—

1. His eldest son Henry Foster, who has been in the Secretary's Department in the General Post Office since 1894. He served as a reserve officer in the South African War for three years, receiving two medals and eight clasps, and was mentioned in despatches.

2. John William Leopold is a Commander R.N. since January 1, 1905. He won the Humane Society's medal for a gallant attempt to save a seaman's life in November 1907, just in time for his father to hear of it.

3. Robert Singleton, a Brevet Major of Royal Engineers since September 1904. He served in Nigeria as D.A.A.G. and at the relief of Kumasi under Sir James Willcocks in 1899, also in South Africa, three medals, and joined the Staff College, January 1908.

4. Of the two daughters the eldest was married, in 1902, to Bernard Eyre Greenwell, eldest son of Sir Walpole Greenwell, Bart.

5. The youngest, born at Halifax, Nova Scotia, is unmarried.

wards went through three operations for cataract, which were only very partially successful, owing to an old accidental injury to one eye and to the weakness left by many attacks of snow-blindness during Arctic service.

At last the fiftieth anniversary of the sailing of the *Fox* came round; and Sir Leopold was well enough to give a commemorative luncheon, when three of his old Arctic messmates, Admiral Sir Vesey Hamilton, Sir Allen Young, and Sir Clements Markham, had the great pleasure of meeting their beloved old chief and his family. The following letter was addressed to him, on behalf of the Council of the Royal Geographical Society, and signed by the President, by his old messmate the ex-President, and by another old messmate, Sir Allen Young:

"1, Savile Row, Burlington Gardens,
"*June* 30, 1907.

"Dear Sir Leopold McClintock,

"In the name and on behalf of the Council of the Royal Geographical Society, we salute and congratulate our Gold Medallist of 1860, and one of the most valued of our colleagues, on a great occasion. For this day is the fiftieth anniversary of the departure of the *Fox* on her memorable voyage.

"We are reminded of your long preparation for your final Arctic service, during which you became the organiser and the creator of Arctic sledge travelling. You brought your system to such perfection that you and your companion, Lieutenant Frederick Mecham, achieved the

wonderful journeys of 1853 and 1854—the most wonderful on record. These results afford the strongest proof of the suitability of your travelling equipments.

"With such experience you were the leading Arctic authority when Lady Franklin, forced to complete the search for her husband and his gallant companions at her own expense, secured your services to command the expedition. The voyage of the *Fox* was a great landmark in the history of geography, whether we consider its conduct, its discoveries, or its momentous results. There is nothing finer in our naval annals than your firmness and resolution when, after the misfortune of being beset for a winter, and then driven out of the ice in a gale of wind, you coolly turned the ship's head again 'Northward Ho!' You sought no port for refreshment, but turned at once to the battle. Such indomitable pluck commanded success.

"The discoverer of the fate of the Franklin Expedition bears a name which will never be forgotten by his countrymen. Your book has long been, and will continue to be, one of the classic narratives of our language, recording a great achievement simply and modestly, yet in a way which fills the reader with sympathy and interest.

"It is not for us to refer to your long and valuable subsequent services in the Navy and at the Trinity House; but we may express our deep sense of the value of what you have continued to do in the interests of geography and discovery during a long course of years.

"You have lived to see much valuable and some splendid work achieved in the Arctic regions, but no one has approached your unequalled journeys, and you still continue to be the greatest, as you are the first, of Arctic sledge travellers.

"That you may long be spared to us, and that

you and yours may continue to enjoy health and happiness, is the earnest wish and hope of your numerous friends and admirers, and, above all, of your old colleagues, who take this propitious opportunity of giving expression to their feelings. We are, dear Sir Leopold, yours most sincerely,

"GEORGE TAUBMAN GOLDIE, P. R.G.S.
"CLEMENTS R. MARKHAM, V.P. R.G.S.
"ALLEN YOUNG, Navigating Officer of the *Fox*."

Sir Leopold replied as follows:

"16, QUEENSBERRY PLACE, S.W.
"*July* 1, 1907.

"GENTLEMEN,

"I have the honour to acknowledge the receipt of your letter of the 30th ultimo bearing the signatures of the President of the Royal Geographical Society, Sir George Taubman Goldie, Vice-President Sir Clements Markham, and Fellow Sir Allen Young, the latter being, I believe, my only remaining companion of the *Fox*.[1]

"Such a letter could not fail to raise in my mind feelings to which it is quite impossible to give adequate expression. In the exploration of several hundred miles of newly discovered coast-line in the hope of finding survivors or traces of the lost Franklin expedition, my duty impelled me to exercise to the utmost of my capacity that high sense of responsibility which is characteristic of our naval service, and most loyally was I supported by those associated with me or under my command. I only wish that more of my companions were still living to share with me the gratification of the generous recognition you have bestowed upon us.

"From my heart I thank you, and most grateful

[1] He ascertained later that Dr. Walker was still living at Portland, Oregon, U.S.A.

am I to you for the manner in which you have given expression to your feelings towards me. It is most touching to find that one is still remembered after so long a time as half a century.

"I remain, gentlemen, yours most sincerely and gratefully,

F. L. McCLINTOCK.

"The President and Council of the Royal Geographical Society."

In the ensuing autumn he caught a chill which ended fatally, and he passed away without pain on November 17, 1907, at the age of eighty-eight years. There was a great attendance of mourners on the 22nd, including representatives of the King and of the Prince of Wales, an official representative of the Admiralty, the President of the Geographical Society, the Deputy Master of the Trinity House, Admiral Sir John Fisher, First Sea Lord, many surviving old shipmates, and an almost unprecedented number of brother officers. A very touching memorial of the *Fox* came from Copenhagen—a wreath from the Directors of the Royal Greenland Company, the present owners of the *Fox*, which is still a good ship and serving in Greenland.

Sir Leopold's record is a remarkable and in some respects a unique one. For he served his country for an unbroken active period of seventy-seven years, his Trinity House service just overlapping his time in the Navy, thus fulfilling a desire expressed in a letter to a friend, when writing about his retirement, that, instead of grieving over it, he hoped to make

it the beginning of a new life. He accomplished probably a longer period of absolute sea time than any other man in the Navy, though, in common with such distinguished admirals as Sir Alexander Milne and Sir Geoffrey Hornby, he never had the fortune to see any war service.

His life story brings out his calm and unswerving resolution, his untiring patience, his undaunted courage, his devotion to a grand cause, his care for others, and his own self-denial, as no mere words can do. He was in the fullest sense of the word an accomplished officer, whom his men would unquestioningly follow anywhere, fulfilling the bluejacket's ideal, "Bless you, sir, we men don't think—the officers is paid for thinking," while his kindly genial bearing oiled the wheels of life. Lady Franklin in one of her letters speaks of "your sunny good temper, which is worth a thousand a year to you." He possessed in a remarkable degree the power of extracting from his subordinates the best work of which they were capable, by discreet indulgence at proper opportunities, and by showing that their personal comfort and welfare was ever one of his foremost considerations. He had also a considerable sense of humour which stood him in good stead in times of perplexity. His manner was self-controlled and cautious. He weighed a question for some time before acting, but when once his mind was made up, he acted promptly. In fact, decision and action seemed to be with him one mental

act, and not two, as with most people. He did not fear responsibility. A very characteristic story is told of him, when the news of the bombardment of Alexandria reached him at Halifax in Nova Scotia. His first remark was, "I only hope that Beauchamp Seymour has landed the marines, for if not, there will be a massacre." The marines were not landed, and there was a massacre. Some time afterwards he heard that the marines had not been landed in obedience to an official telegram from home. When asked what he would have done in such a case, he replied without a moment's hesitation that he would have put the telegram in his pocket and landed the marines.

McClintock loved his profession and everything connected with it. To the very end of his days he enjoyed a discussion on naval questions with his sailor son, and liked to get him to explain all the latest developments of the Service. Though an old man, he appreciated and sympathised with all the necessary changes, and looked with the eyes of a youth on modern questions. He had a good deal of keen political foresight, and more than thirty years ago he surprised a large party by saying that men there present would see the day when England would be forced to reconsider her policy of so-called free trade. On another occasion, when some one in his presence spoke disparagingly of the then Prince of Wales as likely to make a very poor sovereign after Queen Victoria, he indignantly exclaimed: "You

do not know the Prince. I do, and I tell you it will not be many years before the nation realises what a great man it possesses in that Prince." Time has justified both predictions.

In private life he was greatly beloved, full of a kindly, quiet humour, which smoothed away difficulties and acted like sunshine. He seemed to live above the petty annoyances of daily life. His judgment of others was always generous, and scandalous or unkindly talk never failed to arouse his indignation.

M'Clintock's most intimate friends were remarkable men, and showed on what varied ground his mind could meet and sympathise with other minds. One point, however, distinguished them all. Their views and their powers were as widely different as their religious creeds, but all were men of earnestness and personal piety. To mention only three or four among those who have passed away, there were Professor Montagu Burrows and Admiral Sir Cooper Key, his two competitors for the lieutenant's commission, who continued to be his friends through life; Captain Conway Shipley, a man full of artistic and literary power; and above all Sir James Donnet, K.C.B., the Dr. Donnet of the days of the "happy and jolly *Assistance*." The latter was a man of most brilliant and varied attainments, and one for whom M'Clintock had a devoted affection. They maintained an active correspondence to the end of their days.

McClintock was economical, even rigid towards himself in money matters, and very generous to others. When he became a lieutenant, he began making a regular allowance to his mother, who was a widow in poor circumstances with a large family. This was done out of his pay, as neither then, nor later, did he ever inherit any money except one legacy of £100: everything he possessed, or has left, was the fruit of his own labour or self-denial. The simple personal tastes and habits which he cultivated in his early and struggling years remained with him to the last. But his liberality to others and his abundant gifts to charitable objects increased more and more.

A deep religious feeling was, from his youth up, the governing principle of his life. He was not a theologian, still less a religious talker or preacher, though in many of his private letters there are expressions of deep religious feeling too sacred for publication. But every act of his life was governed and inspired by an abiding sense of the presence and providence of God, and his work was always done as for God and not for man. He was emphatically a man of strong faith. "He loved scripture," wrote his kinsman, the Primate of Ireland. He was constant in prayer and in attendance upon public worship; a simple faith and thankfulness pervading his whole life. No one could be intimately acquainted with him without feeling this, and thus, often unconsciously, he influenced others. The Rev. G. F. Wilson,

General Superintendent of the Missions to Seamen, on hearing of his death, wrote thus :

"The earnest kindness and ever-ready sympathy which he always showed for any good work that was set on foot to strengthen and help the lives of seamen, was a source of the greatest encouragement and a real inspiration. None know, perhaps, quite so much as those at work among sailors, what the wide-reaching influence he had over men at sea meant, and how much his earnest life of faith helped and strengthened the lives of others, and still it lives among us."

Sir Leopold McClintock was a great seaman, a great explorer, and, in the highest sense, a great man.

Westminster Abbey is the proper place for such a life to be commemorated. With the permission of the Dean and Chapter, a memorial has been placed there by the Royal Society, the Royal Geographical Society, and the Corporation of the Trinity House. It is under the bust of Franklin, a slab of alabaster with the following inscription :

HERE ALSO IS COMMEMORATED
ADMIRAL SIR LEOPOLD M^cCLINTOCK,
1819–1907,
DISCOVERER OF THE FATE OF FRANKLIN IN 1859.

APPENDIX A

ARCTIC SHIPMATES OF SIR LEOPOLD M^cCLINTOCK

SIR JAMES ROSS'S EXPEDITION, 1848–9

H.M.S. "ENTERPRISE"

Captain . . .	SIR JAMES ROSS.
1st Lieutenant .	ROBERT M^cCLURE: in the *Terror* with Sir G. Back, afterwards Captain of the *Investigator*.
2nd Lieutenant .	F. L. M^cCLINTOCK: First Lieutenant *Assistance*, 1850–1.
3rd Lieutenant .	W. BROWNE: in the *Resolute* 1850–1.
Purser	BIGGS: was with Fitzjames in the *Clio* 1843–4.
Surgeon . . .	ROBERTSON: formerly Surgeon of the *Terror*, Antarctic Expedition.
Assistant Surgeon	MATHIAS: died June 15, 1849.
Second Master .	COURT: afterwards Master of the *Investigator*, 1850–4.
Midshipman . .	CHEYNE: afterwards in the *Resolute* 1850–1, *Assistance* 1852–4.
Master's Assistant	SHELLABEER: in the *Intrepid*.
Master's Assistant	GRUNSELL.
Clerk	WHITEHOUSE: in the *Hecla* (Parry), 1827; *Blossom* (Beechey).
Ice Master . .	ABERNETHY: with Sir John Ross, 1829–33; *Erebus*, Antarctic Expedition; with Sir John Ross in the *Felix* 1850–1; and with Inglefield in the *Phœnix* 1852.
Carpenter . . .	HALL: in the *Resolute* 1850–1.

CAPTAIN AUSTIN'S EXPEDITION

H.M.S. "ASSISTANCE," 1850–1

O = Captain's sledge; McC = McClintock's; M = Mecham's; H = Vesey Hamilton's; K = Krabbé's; E = Ede's; A = Allen's.

Captain	ERASMUS OMMANNEY.
1st Lieutenant	F. L. McCLINTOCK.
2nd Lieutenant	ELLIOTT.
3rd Lieutenant	MECHAM.
Surgeon	DONNET.
Assistant Surgeon	EDE.
Mate	VESEY HAMILTON.
Mate	H. P. BANCE.
Midshipman	CLEMENTS MARKHAM.
Second Master	KRABBÉ.
Clerk-in-Charge	HARRISON.
Clerk	RICHARDS.
Boatswain	OSBORNE, in the *Investigator* 1848–9.
Carpenter	DEAN, in the *Investigator* 1848–9.
Ice Quartermasters	LESLIE McDOUGALL, DAVID WILSON, MICHAEL COLLINS (A).
Boatswain's Mate	JAMES TULLETT (M).
Carpenter's Mate	S. MACCARTHY.
Caulker	W. T. CHERRY.
Blacksmith	W. COLWELL (E).
Sailmaker	J. HOILE (McC).
Captain of the Forecastle	P. SIMPSON (H).
Captain of the Main Top	W. DORE (O), with Sir John Richardson, 1848.
Captain of the Fore Top	J. WOOD (S).
Captain of the Hold	J. McCURDY.
Cook	W. SIMMONDS (K^2).
Officers' Cook	C. EDWARDS.
Ward-Room Steward	JAMES GORE.
Captain's Servant	F. BROOKS (O).
Purser's Steward	BLACKWELL.
Forecastle Men	RUMBLE (E), ABBOT, WILKIE (McC), SLESSOR (M).

Maintop Men . . . . CUNNINGHAM (H), WILSON (K[1]), ARMSTRONG (K[1]), HEYDON (K[1]), T. WARD (O), BEEDLING (M).

Foretop Men . . . . F. DOW (E), J. DAWSON (M[c]C), W. WHITE (K[1]), W. MITCHELL (M), E. PRIVETT (O), W. RICHARDS (S).

Afterguard . . . . . J. SAIT, J. RODGERS (S), T. NORTHOUSE (K[1]), S. HOWE (H), W. GRIFFITHS.

Marines . . . . . Sergeant BARKER (K[2]), Corporal ELLIOT (E), Privates HOOD (M[c]C), FRANCIS (H), DIX, GREEN, BAILEY (M), JOHNSON (K[2]).

M[c]CLINTOCK'S SLEDGE CREW, 1851

APRIL 15 TO JULY 4

M[c]CLINTOCK *1st Lieutenant, Assistance.*

WILKIE . *Forecastle man, Assistance, Captain of the Sledge.*

HOILE . . *Sailmaker, Assistance.*

DAWSON . *Foretop man, Assistance.*

SALMON . *Able Seaman, Intrepid.*

HOOD . . *Marine, Assistance,* joined from Shellabeer's sledge April 29, instead of Rogers.

HEELS . . *Marine, Resolute,* joined from May's sledge May 6, instead of Urquhart.

M[c]CLINTOCK'S DEPÔT SLEDGE CREW, 1851

APRIL 15 TO MAY 10

W. B. SHELLABEER *Second Master, Intrepid.*

JAMES FULLERTON . *Gunner's Mate, Intrepid, Captain of the Sledge,* sent back frostbitten with Cheyne April 23.

GEORGE WOOD . . *Boatswain's Mate.*

FOSTER M[c]KENZIE . *Able Seaman.*

HENRY MORGAN . *Marine.*

ROBERT URQUHART — *Marine*, joined M'Clintock's sledge April 29, instead of Richards, for a few days, but exchanged for Heels on May 6 and sent back with May.

THOMAS HOOD . . — Joined M'Clintock's sledge April 29.

JAMES RODGERS, WILLIAM RICHARDS. — Invalided frostbitten from M'Clintock's sledge. Rodgers's toe amputated.

JOHN BARTLETT . . — *Marine, Resolute.* Invalided from Dr. Bradford's sledge, and taken instead of Elliott on April 28.

W. ELLIOTT . . . — *Carpenter's Mate, Resolute.* Took Fullerton's place April 23, coming from Cheyne's sledge until April 28, when he joined May's sledge.

CAPTAIN KELLETT'S EXPEDITION, 1852–4

H.M. STEAMER "INTREPID," 1852–4

Commander . . .	F. L. M'CLINTOCK.
Master	KRABBÉ, also in the *Assistance* 1850–1.
Assistant Surgeon .	SCOTT.
Engineer	PURCHASE, also in the *Intrepid* 1850–1.
Engineer	IBBETS.
Ice Quartermasters .	G. MURRAY, also in the *Intrepid* 1850–1 (Captain of Vesey Hamilton's sledge 1853). J. WILKIE, also in the *Assistance*, died February 2, 1854 (Captain of M'Clintock's sledge 1851). G. GREEN (Captain of M'Clintock's sledge 1853).
Gunner's Mate . .	G. CLEVERLY (Captain of De Bray's sledge 1853).
Captain, Forecastle .	G. DROVER, also in the *Intrepid* 1850–1, died 1852.
Steward	ALEX. JOHNSTON (one of De Bray's sledge crew 1853).
Carpenter's Mate .	S. DEAN (one of De Bray's sledge crew 1853).

Boatswain's Mate . H. GIDDY (one of McClintock's sledge crew 1853).

Able Seamen . . . J. SALMON, also in the *Intrepid* 1850–1, *Captain of the Forecastle* after Drover's death (one of McClintock's sledge crew 1849, 1851, 1853). R. WARNE (one of McClintock's sledge crew 1853). J. GANNICLIFFE (one of De Bray's sledge crew 1853). J. DREW (one of McClintock's sledge crew 1853). T. HARTNELL (one of De Bray's sledge crew 1853). R. KITSON (one of McClintock's sledge crew 1853, one of Krabbé's sledge crew 1854). H. SMITH.

Marines . . . . Corporal BAINBRIDGE; Private HICCLES (one of McClintock's sledge crew 1853). T. HOOD, also in the *Assistance*, died January 2, 1854. JEREMIAH SHAW (one of Krabbé's sledge crew 1854).

Stokers . . . . . J. COOMBES, died May 10, 1853 (one of De Bray's sledge crew). J. MILES (one of Krabbé's sledge crew 1854). S. SMITHERS (one of Krabbé's sledge crew 1854). W. WALKER (one of Krabbé's sledge crew 1854).

M^cCLINTOCK'S SLEDGE CREW, 1853

M^cCLINTOCK . . . . . *Commander.*
G. GREEN, *Captain of the Sledge* . . *Quartermaster.*
J. SALMON (also 1851) . . . . . *Captain, Forecastle.*
H. GIDDY . . . . . *Boatswain's Mate.*
R. WARNE, J. DREW, R. KITSON . *Able Seamen.*
J. HICCLES . . . . . *Marine.*

DEPÔT SLEDGE

DE BRAY . . . . . *Enseigne de Vaisseau.*
CLEVERLY, *Captain of the Sledge* . *Gunner's Mate.*

S. Dean . . . . . *Carpenter's Mate.*
Johnston. . . . . *Steward.*
Gannicliffe . . . . . *Able Seaman.*
W. Walker. . . . . *Stoker.*
Hartnell . . . . . *Able Seaman.*
J. Miles . . . . . *Stoker.*

Returning with De Bray

T. Hood, died in the next winter . *Marine.*
J. Coombes, died suddenly May 12, 1853. S. Smithers . . . . . *Stokers.*

LADY FRANKLIN'S EXPEDITION, 1857–9

Steam Yacht "Fox"

Captain . . . . . F. L. M^c^Clintock.
Lieutenant . . . . W. R. Hobson, formerly in the *Plover*.
Master . . . . . Allen Young.
Surgeon . . . . . David Walker, M.D.
Engineer . . . . George Brand, died November 6, 1858.
Interpreter . . . . Carl Petersen, formerly with Penny and Kane.
Chief Quartermaster . W. Harvey, in the *Resolute* 1850–1, *North Star* 1852–4.
Quartermasters . . Alex. Thompson, in the *Resolute* 1852–4. H. Toms, in the *Phœnix* 1854.
Boatswain's Mate . J. Simmonds, in the *Assistance* 1852–4.
Carpenter's Mate . . G. Edwards, in the *Assistance* 1852–4.
Sailmaker . . . . T. Grinstead in the *North Star* 1852–4.
Captain of the Hold G. Hobday.
Able Seamen . . . R. Hampton, in the *North Star* 1852–4. J. Haselton; G. Carey; Ben Pound; W. Jones, in the *Assistance* 1852–4.
Carpenter's Crew . W. Walters.
Ship's Steward . . T. Blackwell, in the *Assistance*, 1850–1. Died June 14, 1859.

Officers' Steward . .	R. SHINGLETON, in the *Enterprise* 1850–4.
Cook	MICHAEL LEWIS, sent home from Greenland.
Leading Stoker . .	R. SCOTT, died December 4, 1857.
Stokers	J. PITCHER, in the *Phœnix* 1854. T. FLORANCE, in the *North Star* 1852–4.
Eskimo Dog Drivers	ANTON CHRISTIAN, SAMUEL EMANUEL.

SLEDGE CREWS, "FOX," 1859

F. L. M'CLINTOCK	*Captain.*
CARL PETERSEN	*Interpreter.*
ALEX. THOMPSON	*Quartermaster.*
J. SIMMONDS	*Boatswain's Mate.*
R. HAMPTON, G. CAREY . . .	*Able Seamen.*
W. R. HOBSON	*Lieutenant.*
H. TOMS	*Quartermaster.*
G. EDWARDS	*Carpenter's Mate.*
B. POUND, W. JONES	*Able Seamen.*
ANTON CHRISTIAN	*Eskimo Dog Driver.*
ALLEN YOUNG	*Master.*
W. HARVEY	*Chief Quartermaster.*
G. HOBDAY	*Captain of the Hold.*
J. HASELTON	*Able Seaman.*
T. FLORANCE	*Stoker.*
SAMUEL EMANUEL	*Eskimo Dog Driver.*

APPENDIX B

ICE NOMENCLATURE AND ARCTIC FAUNA AND FLORA

ICE NOMENCLATURE

Ice anchor. A bar of iron bent like a pot-hook, the other end, to which the hawser is attached, being bent back. Placed in a hole cut in the ice.

Bay ice. When young ice becomes thicker and stronger, but still quite thin, it is called Bay Ice ; so called from forming more rapidly in bays or other sheltered places.

Berg. See *Iceberg.*

Beset. The situation of a ship when unable to proceed owing to being closely surrounded by ice.

Bight. An indentation or bay in an ice floe.

Bore (to). To enter the ice under press of sail or steam.

Brash ice is formed of small fragments and nodules, the wreck of other kinds of ice. When such fragments are saturated with salt water, they are called *Sludge.*

Calf, Calving. A calf is a mass of loose ice lying under a floe near its margin and, when disengaged from that position, rising with violence to the surface. When a large mass of ice breaks off and falls from an iceberg, it is called calving.

Dock, an opening cut out of the floe into which a ship is warped for security against threatened pressure.

Drift ice. When ice is smaller than a floe it is so called.

Field ice is a sheet of ice of such extent that its termination is not bounded by the horizon.

Floe is the same as a field, except that its whole extent can be seen. The Scandinavian word is *Is flaga* or *flade* (flat), whence possibly the word " floe."

Ground ice is formed on rivers or shallow inlets while the sea as a whole remains unfrozen.

Hole. A small pool of open water in the ice.

Hummocks are rough hillocks of ice, usually formed in ridges of broken-up pieces where two floes have come in contact.

Ice. See *Bay, Brash, Drift, Field, Floe, Ground, Blink, Foot, Land, Pack, Pancake, Patch, Rotten, Sailing, Stream, Young.*

Iceberg. A mass of ice broken off from a glacier and floating in the sea. At the ends of the deep fjords of Greenland, some of which penetrate for 80 or 100 miles inland, there are walls of ice rising abruptly from the water which are the terminations of glaciers branching down from the inland ice which occupies the whole interior. The summit ridge of this inland ice attains a height of 8,000 ft. and the number of points at which the glaciers reach the heads of the fjords is considerable. On the west coast of Greenland eight of these glaciers are of great extent. On reaching the sea they are called "discharging glaciers." On the Greenland continent the snow, converted into ice by pressure, has, in the course of ages, filled all the valleys, covered the mountain tops, and formed a smooth plateau far above them, so that the thickness of the inland ice is measured by thousands of feet. The walls of ice, abutting on the sea at the heads of the Greenland fjords, forming the terminations of the discharging glaciers, are driven onwards by the force of gravity; for the pressure of the superincumbent mass behind them is enormous, and pressure has the effect of promoting the melting of ice. Warmth is produced both by pressure and friction. The summer heat has, at least, some melting effect on the snow, and the moisture is carried down through fissures percolating through the ice, and forming reservoirs and streams beneath it. This water is one agent in the ice movement, and considerable streams flow under the discharging glaciers into the sea. The Greenland glaciers move more rapidly than those of Switzerland, in some cases the motion of the ice being at the rate of 28 yards in a day. Its mass is the chief agent in the movement of a glacier. The discharging glacier, on reaching the sea, has a thickness of at least

1000 ft. It continues to slide along the bottom until it reaches a point where the depth of the water has sufficient buoyant force to lift it. Still continuing its course the action of the tides gives rise to fissures in the enormous mass, and at length the foremost part is broken off and drifts away as an iceberg. At its birth, an iceberg will be at least a thousand feet in height, as well as in length and breadth, often much larger. The icebergs are discharged from the fjords in vast numbers and are eventually carried by the current of Baffin's Bay and Davis Strait into the Atlantic. These icebergs are alike the grandest and the most beautiful features of the Greenland coasts. Only one-seventh of their bulk appears above water, while six-sevenths are under the surface; yet they are hundreds of yards in circumference, while their peaks reach a height of 300 feet and more. When the movement of the sea has reduced their bulk until the equilibrium is lost, they capsize. The part that has been long worn and battered under water becomes the upper part, and it is then that icebergs assume the most fantastic shapes. Very often a large piece of ice breaks off from the parent berg and falls into the sea, churning it up into creamy waves. This is called "calving." Sometimes the ice-bergs ground in the fjords of their birth or just outside and remain there for months, even years, until the reduction of their bulk at length causes them to float away. The colour of an iceberg is opaque white, like hard pressed snow with air-bubbles in rows. Scattered through the mass, and sometimes visible on the surface, are strata of deep blue ice, such as is seen on the sides of glacier crevasses. The blue bands vary in width from one to several feet, and have an exquisitely lovely effect, contrasting with the dead white of the rest of the berg. Dr. Rink thought that the blue stripes were formed by a filling up of the fissures in the inland ice with water, and he suggested that such a refrigeration of the water in the fissures may be an important agent in setting these great mountains of ice in motion. A thin reddish stratum passing diagonally through an iceberg is sometimes observed. This is a layer of mud

deposited on the inland ice by running water, and its inclination shows the angle at which the berg has fallen over. The icebergs form long streams opposite to their fjords, which are constantly reinforced by fresh additions. The icebergs which float out to sea are eventually taken into the Atlantic by the current, either to ground on the Newfoundland Bank or to float southwards until they are melted or broken up by the waves. They have been met with as far south as 38.40′ N.

Ice blink is a bright white line on the horizon showing itself over the ice field. The blink over land or large masses of ice generally has a yellowish tinge. A *Water sky* is a blue streak on the horizon denoting open water.

Ice chisel. Large socket chisels into which poles are inserted to cut holes in the ice.

Ice foot. A formation on some Arctic coasts, especially up Smith Sound. It is caused by the accumulation of the autumn snowfall, as it drifts to the beach. Being met by sea water with a temperature just below the freezing point of fresh water, it is converted into ice, forming a solid wall from the bottom of the sea, constantly maintained. The upper surface of an ice foot is level with the top of high water. The terrace above this wall, from its edge to the base of the *talus*, has a width dependent on the land slope. Thus an ice foot will not be found either where there are perpendicular cliffs or low coast lines, but only along sloping high lands under special conditions.

Land ice, or *Land floe*, is ice attached to the land.

Lane. A narrow track of open water between floes, or portions of pack ice. A *Lead* is the same.

Needle ice. Formed into sharp points. McClintock compared it to stems of thermometers on end, like a miniature Giant's Causeway. Caused by the action of rain.

Nip, Nipped. The situation of a ship when forcibly pressed by ice on both sides. She is then said to be *nipped*.

Pack ice is the broken ice of disrupted floes driven together by winds and currents. An *open pack* is when the pieces do not touch. A *close pack* is when the pieces are pressed together.

Pancake ice consists of small circular pieces with raised edges. In a ruffled sea the pieces of *bay ice* strike each other on every side, and so become rounded with the edges turned up.

Patch is a collection of drift ice the limits of which can be seen, in contradistinction to pack ice.

Penknife ice. Parry's name for needle ice.

Rotten ice is old ice partially melted and in part honeycombed.

Sailing ice is ice of which the pieces are so separated as to allow of a ship sailing between them.

Sallying is causing a ship to roll by the men running in a body from side to side, to relieve her from adhesion of young ice, around her.

Sludge. Fragments of ice saturated with salt water.

Stream of ice is a drifting line of loose ice, and when smaller than a floe it is called *drift ice.*

Tongue is a mass of ice projecting from a floe or an iceberg under water, but not loose. In that case it is a *calf.*

Water sky. See *Ice blink.*

Young ice is the thin film first formed on the surface of the sea when the temperature is sufficiently low. It used to be thought that ice could only be formed in creeks and inlets of the coast. It is now known that young ice forms on the surface of the open sea when the temperature is low enough, and thickens into dense masses where not disturbed by currents and swells raised by gales of wind.

ARCTIC FAUNA AND FLORA OF GREENLAND AND THE PARRY ISLANDS

MAMMALS

There is a great difference between the Arctic fauna and flora and the Sub-Arctic, which may be placed between the 60th and 70th parallels. The Sub-Arctic fauna is naturally much more numerous. But it is only with the strictly Arctic fauna and flora, to the north of 70, that we have to deal.

The Right Whale (*Balæna mysticetus*)—or *Rhet val* of the Scan-

dinavians, *Arvek* of the Eskimos—has been the main source of Arctic wealth from very early times. The size of a large one is 65 ft. in length, from the fork of the tail to the lower jaw, with a girth of 30 ft., and breadth of tail 24 ft. The length of the head is 21 ft., and of the whale bone or baleen (*laminæ*) in the mouth 12 to 14 ft., the number of laminæ being about 360. These huge animals are gregarious in their habits, being generally found in small schools of three or four, and their presence is indicated by blowing. The blow-holes are analogous to the nostrils of all higher animals, and the blowing is merely breathing, the breath being quickly condensed in the cold Arctic air, and falling as spray. A full-grown whale will not remain under water much longer than half an hour. The skin of a whale is an inch and a half in thickness, and the blubber between the skin and the flesh, tolerably uniform throughout the body, has a thickness of a foot to 18 in. The whale's food consists of *actiniæ*, *cliones*, *Medusæ*, *pteropods*, *cancri*, and *helices*, which are able to pass between the laminæ of the whalebone. In the summer the whales penetrate to every navigable part of the Arctic regions, and they used to winter and produce their young along the broken water off the coasts of Davis Strait, Hudson's Strait, and Labrador. The remorseless pursuit of these animals for centuries past has greatly diminished their numbers. Only one port, Dundee, in the British Isles, now sends out a fleet in pursuit of the Right whale. It is singular that during the two seasons of 1906 and 1907 the greatest success has been obtained in the sea between Spitsbergen and Greenland, where these whales were believed to be practically extinct. Whereas in the Davis Strait fishery only three whales have been killed during the seasons mentioned, six were killed in the Spitsbergen sea. The market price of whalebone is to-day about £2,400 per ton. It is chiefly used to stiffen silks by being woven into the fabric.

The White Whale (*Beluga catodon*)—"*Hvid-fisk*" of the Danes, *Kakortok* of the Eskimos—13 ft. long, is also an Arctic mammal, very swift and active, and keeping near the

shore. This is the most important of all the cetaceans to the Greenland Eskimos. Of this animal and the Narwhal about 500 are caught yearly in Danish Greenland.

The Narwhal or *Sea Unicorn* (*Monodon monoceros*)—*Unie* of the whalers, *Kernektock* of the Eskimos—is also Arctic, and has similar haunts to the white whale. It is 13 to 16 ft. long, and the horn, an abnormally developed tusk in the male, is 10 ft. long, coming out of the lower part of the upper jaw on the left side. It is spirally striated from right to left. Double-tusked narwhals are not very uncommon. The horn is supposed to be used for stirring up food from the bottom. This is questionable, for if such be the case, the tuskless female would be in a condition of marked inferiority to the male. It has also been suggested that the horn is used for keeping holes open in the ice during winter.

The Walrus, Morse, or *Sea Horse—Auvek* of the Eskimos (*Trichecus rosmarus*)—is an inhabitant of the ice floes in the far north. Length, 12 to 15 ft., and girth 8 ft. They are gregarious and sometimes assemble in great numbers on the ice, but more frequently are met with on drift ice, in families of six or seven. Their great bulk and formidable tusks are very striking, and they are the only seals in the north with posterior fins. When in herds one is always on the watch to warn the others of danger. Unlike ordinary seals, they will not retreat but boldly meet their enemies. The tusks and hides are both commercially valuable. The flesh is nutritious and not unpalatable. Owing to its destruction by man, the haunts of this animal are yearly becoming more and more restricted. It has been practically extirpated from the coasts of Danish Greenland, and is now rarely captured at Spitsbergen. It is becoming scarce on the west coast of Novaya Zemlya. At the present time its strongholds are Franz Josef Land and the north water of Baffin's Bay.

Of six Arctic seals, (1) *the Sea Dog* (*Phoca vitulina*)—*Kassigiak* or *Ermik* of the Eskimos—is the best known and has a very wide range. The slaughter of them, and the next species

combined, is calculated at 70,000 annually in Danish Greenland alone, the skin being valuable and the flesh palatable.

(2) *The Floe Rat—Neitsek* of the Eskimos (*Phoca fœtida*)—is the smallest of the Arctic seals, much preyed upon by bears. It has been observed farther north than any other species of seal, even beyond 83° N.

(3) *The Saddle-Back—Atak* of the Eskimos (*Phoca Greenlandica*)—is from 5 to 6 ft. long, the colour of the male being tawny grey, with a dark saddle-shaped band on the back. The colour of the female is a dull white. The saddle-back is rather a foolish and careless seal, and is easily caught. It has a wide range.

(4) *Phoca barbata—Urksuk* of the Eskimos—is the largest next to the walrus, and supplies harpoon lines from its hide, as well as blubber of good quality.

(5) *The Grey Seal* (*Phoca gryphus*) is very nearly as large.

(6) *The Bladder-Nose Seal—Ahunnektok* of the Eskimos (*Phoca cristata*)—has a very curious bladder-like appendage on its forehead, which is connected with the nostrils and can be blown out at will. It is both large and fierce, and there are great battles on the ice between the males in the rutting season.

The Polar Bear—Nennok of the Eskimos (*Ursus maritimus*)—is a purely Arctic mammal. It goes as far north as the seals and no farther. It is a marine animal, seeking its food on the sea, and is found swimming far from the land. It hibernates, but not during the whole winter; for bears are seen prowling during every winter month. It does not hug but bites, and will not eat its prey until it is dead.

The Arctic Foxes—Terienniak of the Eskimos (*Canis lagopus*)—are numerous throughout the north polar regions. The coat is of the purest white in the winter, but becomes tawny in the summer months. It preys on young birds and lemmings, seeking a living in winter at open places where the tide breaks the ice. It has been observed to lay up stores of lemmings for winter use.

Wolves—Amarok of the Eskimos—follow the reindeer and musk oxen, and make the night hideous by their mournful howls. They are rarely seen in Danish Greenland.

The Eskimo Dog—Kemmek of the Eskimos—is of the same species all over the American polar regions. The dog is found as far north as man exists, for no Arctic tribe is without dogs either for dragging sledges or rounding in reindeer. Without dogs the dwellers on the Arctic threshold could not exist, for it would be impossible for them either to make their long migrations from one hunting ground to another or to drag home their food. There is a striking resemblance between Arctic dogs and wolves, and Dr. Rink had little doubt that the Eskimo tradition which relates the first training and taming of wolves points to a time not more than three centuries ago. The Greenland dog sledge requires a couple of boards for runners about 6 ft. long, and cross-pieces forming the seat. Two upright poles behind, connected by cross-pieces, are used for holding and steering when the driver walks. The sealskin thongs with which all parts are secured give elasticity in crossing rugged ice. On smooth ice the dogs will drag a sledge 26 miles a day. Dr. Rink calculated that there were 2000 sledge dogs in Danish Greenland, and 320 sledges. The team varies from four to twelve dogs.

Lemmings (*Myodes Hudsonicus*, *torquatus*, and *Grænlandicus*) are found burrowing in the snow as far north as 83° and in the Parry Islands, but not in Danish Greenland. The Ermine (*Mustela Erminea*) is found in Siberia and the east coast of Greenland. It ranges to the 83rd parallel.

The Arctic Hare—Ukalek of the Eskimos (*Lepus glacialis*)—has a very wide range. In winter it has a beautiful white coat.

The Musk Ox—Uminmak of the Eskimos (*Ovibos moschatus*)—is in reality a huge sheep allied to those of Central Asia. Musk oxen belong to Arctic America, most of the Parry Islands, Ellesmere Island, and the extreme north of Greenland, extending its range on the east coast as far south as 70°. It is wonderful how they can find sustenance from the scanty herbage buried deep in the snow during the winter, and it was long supposed that they migrated to the south in the autumn. But this is now known not to be the case.

Reindeer—Tukto of the Eskimos (*Raniger tarandus*)—have a much wider range, being met with in all parts of the Arctic regions, except inaccessible islands. In Greenland for many years, and more recently farther north, the slaughter of reindeer and musk oxen has been reckless and deplorable. It ranges in Ellesmere Land to 83°.

ARCTIC BIRDS

This list of Birds of the Parry Archipelago and North Greenland might have been augmented by the inclusion of several species that have been recorded, apparently as rare or accidental occurrences. It is, however, deemed preferable to confine the list to those species known to make this region their breeding grounds, or being well known and satisfactorily determined by our explorers.

Greenland Falcon—Kirksoviarsuk-kakortuinak of the Eskimos (*Falco Candicans*).—White form of Great Northern Falcon. Circumpolar in distribution. Found nesting in Smith Sound as far north as 79° 41′.

Peregrine Falcon—Kirksoviarsuk-millekulartok of the Eskimos (*Falco peregrinus*).—Victoria Island, Dr. Anderson, Port Kennedy, old and young, *Fox* Expedition. Circumpolar and almost world-wide in distribution.

Rough-legged Buzzard (*Archibuteo Sancti-Johannis*).—Ascertained by Mr. Anderson to visit the west coast of Victoria Island.

Harrier (*Circus hudsonius*).—Noted by Mr. Anderson as a visitor to the west coast of Victoria Island.

Snowy Owl—Opik of the Eskimos (*Stryx nyctea*)—in all parts of the Arctic regions, feeding on hares, lemmings, and ptarmigan. Length 22 to 27 in. Nests as far north as 83°.

Snow Bunting—called by the Eskimos *Kopanauarsuk* and *Amauligakaudit* (*Emberiza nivalis*)—the most northern land bird from the middle of April to the end of September. Nest of dry grass lined with feathers in clefts of rock. Egg greenish white, with brown spots. Feeds on buds of purple saxifrage and insects. Length 7 in.

Shore Lark (*Alanda alpestris*).—Two obtained at Winter Cove, Victoria Island, by Mr. Anderson, June 3, 1852. Found at Port Kennedy (*Fox* Expedition), July 1859.

Lapland Bunting (*Calcarius Lapponicus*).—Found at Winter Cove, Victoria Island, by Mr. Anderson in 1852, where its nest and eggs were also procured. Found breeding at Port Kennedy (*Fox* Expedition).

Raven—Tullugak of the Eskimos (*Corvus Corax*)—found in the extreme north. Seen by Parry at Melville Island, and at Port Bowen and by Ross at Port Leopold, in Smith Sound as far as 81° 41′. One of the few birds that braves the rigour of an Arctic winter.

Ptarmigan—Akeiksek of the Eskimos (*Lagopus rupestris*)—found in all parts of the Arctic regions in spring and summer to 83° N., the plumage perfectly white in spring, speckled brown and grey in summer.

Brown Crane (*Grus canadensis*).—Found nesting in Victoria Island by Mr. Anderson. The most northern breeding range of this species yet recorded.

Turnstone—Telligvak of the Eskimos (*Strepsilas interpres*)—searches for food by turning over small stones. Breeds in the Parry Islands, and as far north as 83° in Smith Sound. Circumpolar. Length 9½ in.; plumage black and red, under-surface of body white.

American Golden Plover—Kajorrovek of the Eskimos (*Charadrius virginicus*).—Abundant in the Parry Islands, where it breeds. Seen in plenty on Parry's second voyage. Nesting near Cambridge Bay, where its eggs were procured, 1853.

Ringed Plover—Tukagvajok of the Eskimos (*Ægialitis hiaticula*).—Said to be abundant in the Parry Islands, certainly obtained in Smith Sound. Visits Jan Mayen, Spitsbergen, Novaya Zemlya, North Siberia to Bering Strait.

Sanderling (*Calidris arenaria*).—Said to breed in the Parry Islands, certainly on Sabine Island, east coast of Greenland, Smith Sound as far north as 82° 33′, Prince Charles Foreland, Spitsbergen, and Taimyr Peninsula. It lays four dusky coloured eggs spotted black. The body and wing feathers dark edged with red, under-surface white.

Grey Phalarope—Kajok of the Eskimos (*Phalaropus fulicarius*).—Breeds in the Northern Inspectorate of Danish Greenland, in Smith Sound as far north as 82° 33′, almost certainly in the Parry Archipelago (though this and the following species do not appear always to have been differentiated by the Franklin Search explorers). Abundant in Alaska in summer, and on the Liákoff Islands, found breeding in Spitsbergen. Its trivial name is due to its autumnal plumage; during the breeding-season the prevailing colour is deep chestnut.

Red-necked Phalarope—Nelloumirsortok of the Eskimos (*Phalaropus hyperboreus*)—is a summer visitor to the high latitudes of the Old and New Worlds. It breeds abundantly in the Arctic regions of America; Mr. Anderson records it from Victoria Island. It breeds plentifully in Greenland, Iceland, North Scandinavia, Novaya Zemlya, and Siberia; a few still linger to nest in the British Isles and Ireland.

Bonaparte's Sandpiper (*Tringa fusicollis*).—Obtained nesting at Winter Cove by Mr. Anderson, June 1852.

Least Sandpiper (*Tringa pusilla*).—Procured at Winter Cove, 1852. Breeding Cambridge Bay, 1853.

Buff-breasted Sandpiper (*Tringa rufescens*).—Obtained at Winter Cove, 1852.

Stilt Sandpiper (*Tringa Douglasii*).—Two males obtained at Cambridge Bay, 1853, by Mr. Anderson.

Purple Sandpiper—Sarbarsuk of the Eskimos (*Tringa striata*).—Recorded by Dr. Anderson from Victoria Island, and by Greely from Smith Sound, more or less plentiful in the Færoes, Iceland, Greenland, Spitsbergen, Franz Josef Land, and Novaya Zemlya.

Knot—Kajok of the Eskimos (*Tringa canutus*).—Breeds in the Parry Islands and as far north as 83° in Grant Land. In Asia it was found breeding by the late Dr. H. Walker on the Taimyr Peninsula in 1901, who there obtained the first well-authenticated eggs of this species.

Arctic Tern—Imerkoteilak of the Eskimos (*Sterna hirundo*).—Length 13 in. Red bill and legs, crown of the head mottled black and white, back and wings pearl-grey, under-surface of body white. Occurs during summer in

abundance in the Polar regions. Observed 84° 3′, *Fram.*, by Parry beyond Spitsbergen, and remarkable to relate they were met with in thousands in the Weddell Sea by the naturalists of the *Scotia*, during March 1904, as far south as 74° 1′. That it is only a summer visitor to the Antarctic does not admit of doubt, but it is one of the mysteries of bird-life why this elegant bird should seek its summers at the opposite ends of the earth, traversing the greatest latitudinal range of perhaps any living creature, save man.

Sabine's Gull (*Xema Sabinii*).—First discovered by Sir E. Sabine in 1818. Head black, breast and belly white, back and wings ash colour. Length 13 in. Breeds in Victoria Island, through the Arctic regions of North America ; in the Old World its eggs have been taken on the Taimyr Peninsula and Spitsbergen.

Ross's Roseate Gull (*Rhodostethia rosea*).—None seen in any of the expeditions in which M'Clintock served. First discovered by Sir James C. Ross in Melville Peninsula, subsequently, though sparingly, by later explorers in various parts of the circumpolar regions. Long esteemed one of the rarest of birds. Its breeding haunts a surmise until 1905, when the Russian naturalist Buturlin found it breeding abundantly over the great delta of the Kolymá in Siberia. The Roseate Gull is a marsh-breeding bird, nesting in colonies. The mystery remains where these birds pass their winters. Buturlin observed young and old, after nidification, winging their way towards the Polar sea. Observed 84° 41′, *Fram.*

Ivory Gull—Nayauarsuk of the Eskimos (*Larus eburneus*).—Snow-white. Length 16 to 18 in. This well-known circumpolar bird was first discovered breeding by Richardson near Point Keats in long. 122°. W. ; Sir Leopold M'Clintock obtained a single egg (now in the Dublin Museum) from a nest on Prince Patrick's Island in 116° W. Its best-known breeding places, since discovered, are in the Spitsbergen Archipelago and on Franz Josef Land. Observed to nearly 85°, *Fram.*

Kittiwake—Danish *Krykje*, Eskimo *Tatterat* (*Larus tridactylus*).—Head and breast white, wings grey with black tips,

Length 15½ in. Breeds in myriads, with the looms. Circumpolar in distribution, extends its range to the entrance of Smith Sound.

Silver Gull, or *Herring Gull* (*Larus argentatus*).—A species of wide distribution in the northern hemisphere. Found breeding by Mr. Anderson in Victoria Island.

Iceland Gull (*Larus leucopterus*).—Breeds in Greenland, extends its range over the Parry Archipelago, found breeding by Mr. Anderson in Victoria Island.

Burgomaster or *Glaucous Gull—Nayavek* of the Eskimos (*Larus glaucus*).—White with skimmed-milk-blue wings, sometimes darker. Length 32 to 33 in. Found in summer throughout the entire circumpolar regions of the Old and New Worlds. Observed 83° 51′, *Fram*.

Pomatorhine Skua (*Stercorarius pomatorhinus*).—Circumpolar in distribution. Obtained in the Parry Archipelago, and in 82° 53′, *Fram*. Authenticated eggs as yet only obtained in the northern tundras of Siberia.

Richardson's Skua (*Stercorarius crepidatus*)—Circumpolar as a breeding species. Nests in the Parry Archipelago.

Buffon's Skua (*Stercorarius longicaudatus*).—Has the most northern range of the three parasitic gulls here recorded. Breeds as far north as 83° in Grant Land, where it subsists on lemmings. Obtained by Mr. Anderson in Victoria Island.

Mollemukke or *Fulmar Petrel—Kakordluk* of the Eskimos (*Procellaria glacialis*).—Head and neck white, back and wings pearl-grey, under-surface of body white. Length 19 in. Extends its range as far north as 82° 30′ in Smith Sound. Observed 85° 5′, *Fram*. The highest latitude in which birds have been seen!

Brunnich's Guillemot or *Loom—Akpa* of the Eskimos (*Uria Brunnichii*).—Named after Brunnich by Sir E. Sabine, has a thicker bill than the common guillemot. Breeds in myriads in Greenland and the Parry Islands.

Dovekey—Servak of the Eskimos (*Black Guillemot*) (*Uria grylle*).—Smaller, black, with white patch on the wings, red legs. Breeds in great numbers. Ranges as far north as 82° 33′ on the north coast of Ellesmere Island.

Little Auk or *Rotche—Akpalliarsuk* of the Eskimos (*Mergulus*

alle).—Rarely on land except in the breeding season. Breeds in myriads in the Arctic regions. Black, under-surface of the body white. Length 8½ in.

Great Northern Diver (*Colymbus glacialis*).—Recorded from Winter Cove, 1852, by Mr. Anderson. Probably *G. adamsi*.

Black-throated Diver (*Colymbus arcticus*).—Male and female procured at Winter Cove by Mr. Anderson, June 1852.

Red-throated Diver—Karksuak of the Eskimos (*Colymbus septentrionalis*).—Head ash-grey, back and wings black speckled with white, belly white, conical red patch on the throat. 24 in. long. Breeds throughout the Arctic and Sub-arctic regions of the Old and New Worlds. Observed as far north as 82° 27′, Ellesmere Island.

Long-tailed Duck—Aglek of the Eskimos (*Harelda glacialis*).—Has great diversity of plumage depending on age. In Greenland and the Parry Islands. Length 17 in., with tail 22 to 24 in.; breeds up to 83° on the north coast of Ellesmere Island.

Eider Duck—Amaulik of the Eskimos (*Somateria mollissima*).—Breeds in Greenland and the Parry Islands. The male is white on the back, with black plumage on wings and lower part of the body. Female pale brown tinged with red. Breeds as far north as 82° 31′ in Ellesmere Island.

King Duck—Siorahitsok or *Annaniartok* of the Eskimos (*Somataria spectabilis*).—Like the eider duck but with beak reddish orange, cheeks white tinged with green, and top of the head bluish grey. Breeds between 82° and 83° on the north coast of Ellesmere Island.

Brent Goose—Nerdlek of the Eskimos (*Bernicla brenta*).—Breeds in the farthest north. Length 21 in.; egg greyish white, 2¾ in. by 1¾ in.; head and neck black, body and wings brownish black, tail black. Breeds to 83° in Ellesmere Island.

American Swan (*Cygnus americanus*).—Recorded by Mr. Anderson from the west coast of Victoria Island, and as breeding at Cambridge Bay, where two eggs were procured in 1853.

White-fronted Goose (*Anser albifrons* var. *gambeli*).—Obtained by Mr. Anderson at Winter Cove in June 1852.

Snow Goose (*Chen hyperboreus*).—A visitor to the west coast of Victoria Island, on the authority of Mr. Anderson.

Canada Goose (*Anser canadensis*—var. *Hutchinsii*).—Observed on the west coast of Victoria Island. Mr. Anderson found it breeding at Cambridge Bay in 1853.

ARCTIC FLORA

The flora of the Arctic regions, though humble and lowly, presents very beautiful carpets of verdure enriched with bright colours during the summer months.

There are 762 species of Arctic flowering plants, besides 332 mosses, 250 lichens, and 28 ferns. Of the flowering plants 616 are European, and of these 496 are also in the Alps. The Arctic flora also presents some features of special interest. Its history goes back to the Miocene age. For the Greenland fossils prove that there were extensive forests far north of the Arctic Circle in Greenland, presenting 137 species already discovered. The fossils include many different species of arborescent trees. Of these there are oaks, maples, poplars, planes, walnuts, magnolias, 30 species of conifers, and some sub-tropical plants including sequoias. In the collection made at the coal bed in 81° 45′ N., Ellesmere Island, Professor Heer noticed 30 species, consisting of conifers, poplars, birch, elm, and hazel. These forests must have extended over a large portion of the Arctic regions. The spruce was growing during the Miocene period in the north of Spitsbergen and of Ellesmere Island, but in Europe the tree did not then exist. Hence it probably had its original home at the north pole and has since extended southwards.

In the lapse of ages a glacial period succeeded. All the rich vegetation has disappeared, yet the existing Arctic flora is possessed of special interest, as has been pointed out by Sir Joseph Hooker. He has explained in his well-known memoir published by the Linnæan Society, that the flora of Greenland, consisting of about 300 kinds of flowering plants besides mosses, algæ, and lichens, presents the following peculiarities:

1. The flowering plants of Greenland are almost without exception natives of the Scandinavian peninsula.

2. There is in the Greenland flora scarcely any admixture

of American types, which nevertheless are found on the opposite coasts of Labrador and the Parry Islands. (Of 207 species only 11 are not European.)

3. A considerable proportion of the common Greenland plants is nowhere found in Labrador and the Parry Islands, nor indeed elsewhere in the new world.

4. The parts of Greenland in the Sub-arctic regions, though warmer than those north of 70°, contain scarcely any plants not found to the north of that parallel.

5. A considerable number of Scandinavian plants which are not natives of Greenland are nevertheless natives of Labrador and the Parry Islands.

6. Certain Greenland and Scandinavian plants, which are nowhere found in polar plains of Labrador or Canada, reappear at considerable elevations on the Alleghanies and White Mountains.

Sir Joseph Hooker goes on to point out that no other flora known to naturalists presents such a remarkable combination of peculiar features as this. The solution suggested by Sir Joseph is that the Scandinavian flora did, during the warm period preceding the glacial—a period warmer than the present—extend in force over the polar regions including Greenland, the Parry Islands, and the submerged continent. At this time Greenland no doubt presented a much richer Scandinavian flora than it now does. On the accession of the glacial period this flora would be driven slowly southwards, down to the extremity of the Greenland peninsula in its longitudes, and down to the Alleghanies and White Mountains in their longitudes. The effect in Greenland would be to leave there only the more Arctic forms of vegetation, unchanged in habits or features, the rest being, as it were, driven into the sea. But the effect on the American continent would be to bring the Scandinavian flora into competition with an American flora that pre-occupied the lands into which it was driven. On the decline of the glacial epoch Greenland, being a peninsula, could be repeopled with plants only by the northward migration of the purely Scandinavian species that had been previously driven into its southern extremity; and the result would be a uniform Scandinavian flora throughout its length, and this an Arctic one, from north to south. But in America

a very different state of things would supervene. The Scandinavian plants would not only migrate north, but also ascend the Alleghany and White Mountains. The result would be that, on the one hand, many Scandinavian plants which had been driven out of Greenland, but were preserved in America, would reappear in the Parry Islands and Labrador, accompanied by sundry American mountain types ; and on the other, that a few Greenland Scandinavian types, which had been lost in the struggle with the American types during their northward migration, and which hence do not reappear in Labrador and the Parry Islands, might well be preserved in the Alleghanies and White Mountains. Lastly, a number of Scandinavian plants which had changed their form or habit during the migration in America in conflict with the American types would appear in the Parry Islands, as American varieties or representative species of Scandinavian plants.

Whether or no this be a true hypothesis, it shows the peculiar interest that attaches to the geographical distribution of plants in the Arctic regions, and the light which that distribution may throw on the former geological conditions. It points to a connection between Greenland and Norway in a remote past, a connection to which recent investigations appear to point as probable.

Since the publication of this memoir, now nearly fifty years ago, many eminent botanists have expressed the opinion that the hypothesis of the total extirpation, or expulsion, by a glacial ice-cap, and subsequent immigration of the present Arctic flora, is not tenable in its entirety. Twenty years subsequent to the publication of the celebrated memoir referred to, Sir J. D. Hooker throws the great weight of his opinion into the scale in favour of the retention of European species in high Arctic latitudes during the Glacial Epoch, for in Appendix to the *Voyage of the "Isbiorn,"* 1881, he writes regarding the differences between the floras of Novaya Zemlya, Spitsbergen, West Greenland, and Smith Sound, in latitudes 71° to 83° : "Whereas there is no difficulty in assuming that Novaya Zemlya and the American Polar islands have been peopled with plants by migration from the south, no such assumption will explain the European character of the

Greenland, and especially the high northern Greenland vegetation, the main features of which favour the supposition that it retains many plants which arrived from Europe by a route that crossed the Polar area itself, when that area was under geographical and climatal conditions which no longer obtain." This land connection must have been in existence, before the commencement of the Glacial Epoch, in the northern hemisphere, for North Greenland has not yet emerged from that epoch. The theory that during the Glacial Epoch an ice-cap covered the entire Polar area, extirpating all plant life, rests chiefly on assumption and hypothesis. Judging from what we now see in Greenland, Spitsbergen, Novaya Zemlya, Franz Josef Land, Ellesmere Island, and the north of Greenland, we may reasonably infer that phanerogamic vegetation was not exterminated during the period of maximum ice accumulation in the northern hemisphere.

The phanerogamic flora of the most northern part of Ellesmere Island, between 82° and 83°, and of North Greenland between 82° and 83° 8′, consists of thirty-two plants:

Ranunculus affinis.
R. nivalis.
Papaver nudicaule.
Cochlearia fenestrata.
Braya alpina.
Draba alpina.
D. hirta.
D. rupestris.
Wahlenbergia apetala.
Arenaria rubella.
Cerastium alpinum and var. *cæspitosum.*
Dryas integrifolia.
Potentilla nivea.
Saxifraga oppositifolia.
S. cernua.
Saxifraga flagellaris.
S. cæspitosa.
S. tricuspidata.
S. nivalis.
Epilobium latifolium.
Taraxacum officinale.
Salix arctica.
Polygonum viviparum.
Oxyria digyna.
Alopecurus alpinus.
Poa abbreviata.
Festuca ovina.
Eriophorum angustifolium.
Juncus viglumis.
Carex nardina.
C. fuliginosa.

Of these thirty-two plants, all but three—*Dryas integrifolia*, *Saxifraga tricuspidata*, and *Salix arctica*—occur in Spitsbergen, whilst only two are absent from Novaya Zemlya:

namely, *Saxifraga tricuspidata* and *Dryas integrifolia*—and in both countries the nearly allied *Dryas octopetala* takes its place. It is a reasonable hypothesis that the present flora of the northern part of Ellesmere Island, which is also so characteristic of the floras of Spitsbergen and Novaya Zemlya, have all a common origin in a palœarctic flora, which has survived through the Glacial Epoch, rather than that it has been brought back by migration from the south, since its presumed extirpation by the Glacial Epoch; in effect the Scandinavian flora is Polar in its origin and not derived from a post-glacial Scandinavian immigration. The distribution of that peculiar Arctic grass, *Pleuropogon Sabinii*, gives strong evidence of its Polar origin. Originally discovered by Sabine on Melville Island, it was subsequently met with by our explorers in several localities in the Parry Archipelago, amongst others by the *Fox* expedition in Bellot Straits; it is a common plant on the western shores of Davis Strait, found at Cape York by Nathorst, it is abundant in Novaya Zemlya, very rare in Franz Josef Land, discovered by Nordenskiold on Taimyr Island off the coast of Siberia, but so far has not been met with on the mainlands of the Old or New Worlds. If the vegetation now existing in the Polar area be due solely to post-glacial immigration from the south, it is inexplicable why *P. Sabinii* has got back to the Polar area without leaving a trace of its presence south of the arctic circle.

The Sub-arctic flora is of course richer than the Arctic; yet South Greenland only adds 74 species to the flora north of Disco. The growth is, however, more vigorous. Here the dwarf birch (*Betula fruticosa*) attains a height of 14 ft., there is a willow 16 ft. high, and the crowberry (*Empetrum*) abounds and yields good fruit. It is the food of Eskimos, ravens, and buntings, while ptarmigans feed on the young twigs. The angelica plant, called *Quan* by the Norsemen (*Archangelica officinalis*), is also common. The lady's mantle (*Alchemilla alpina* and *vulgaris*) is seen in bright emerald-green masses along the banks of streams as far north as Disco, as well as willow herb (*Epilobium latifolium*), two gentians, hawkweek, several ferns, and numerous grasses and mosses. The scurvy grass (*Cochlearia fenestrata*) is much prized as a

salad, and is described by the earliest writers on Greenland, Egede[1] and Crantz.[2] Among the grasses is the cotton grass (*Eriophorum capitatum*) with heads of snow-white cottony down, and 90 species of grasses and sedges. One of them (*Carex capitata*) only occurs in Greenland and in the White Mountains. *Phleum alpinum*, another grass, is only found in Greenland and in Labrador and the White Mountains. Among the mosses is the *Cassiopeia tetragona*, abundant everywhere and used for fuel. It forms soft luxurious beds. A crucifer (*Draba aurea*) is another plant which is only found in Greenland and on the Rocky Mountains. There is also a sandwort (*Arenaria Greenlandica*) only found in Greenland and on the White Mountains of New Hampshire.

In the true Arctic regions, the far north, the flora is more scanty, but very beautiful during the short summer. The only plant forming wood is a minute dwarf willow, crawling amongst the rocks, and never rising above the ground. The most ubiquitous and widely spread of all the Arctic flowers, and one of the most beautiful, is the purple saxifrage (*Saxifraga oppositifolia*), and next the pretty yellow poppy (*Papaver nudicaule*), the hardiest of Arctic plants and, after the purple saxifrage, the most widely distributed. There are at least twelve other Arctic saxifrages, among them *S. cernua* (drooping saxifrage), *S. cæspitosa* (tufted saxifrage), and the curious spider plant, *S. flagellaris*.

The intense cold is not the only enemy to vegetation in the far north. Plants are the sole support of musk oxen, reindeer, hares, lemmings, snow buntings, ptarmigan, brent geese, and other birds. Musk oxen will eat any herbage, but are especially fond of *Carex fuliginosa* and the dwarf willow (*Salix Arctica*). The favourite food of hares is *Saxifaga cæspitosa*. Ptarmigan subsist almost entirely on dwarf willow, brent geese prefer the shoots and heads of *Ranunculus nivalis*, *Eriophorum capitatum* (cotton grass), and *Cerastium alpinum*. Reindeer will reject everything for *Stellaria longipes* (starwort). Snow buntings like the seed tops of poppies and *drabas* better than anything. Hosts of lemmings are supported by *drabas* and purple saxifrage, the latter being the first plant to form fresh growth.

[1] P. 45. [2] I. p. 61.

Mr. Hart says that he has never seen any wild plant to compare with the purple saxifrage for a rich display of colour, covering many square yards with magnificent sheets of red-purple. Next to it, as typical Arctic plants, are the yellow poppy and the *Dryas integrifolia*. In spite of climate and the demand for them as food, there are 69 species in 82° N. up Smith Sound, but Feilden gathered only 32 flowering plants between the parallels of 82° and 83°. In Franz Josef Land the same plants are found, the purple saxifrage, yellow poppy, *Draba alpina*, and scurvy grass. Franz Josef Land yields only 27 species of phanerogamic plants.

The most northern plant of all is the purple saxifrage found in 83° 8′ N.; next comes the yellow poppy (*Papaver nudicaule*) in 83° 4′ N., the dwarf willow in 82° 50′, also the *Draba alpina*, *Cerastium alpinum*, *Dryas integrifolia*, *Potentilla nivea*, and *Poa flexuosa*. The *Braya alpina* occurs in 82° 27′ N. with the scurvy grass and *Saxifraga flagellaris*. Sorrel was found also in 82° 27′ N. with *Ranunculus nivalis*, *Epilobium latifolium*, *Stellaria longipes*, and bitter cress or ladies' smock, *Cardamine bellidifolia*. The *Cystopteris fragilis* fern reaches to 78° 45′ N., and there is a *Woodsia* in 78° 56′ N.

These, then, are the typical plants of the most northern lands, where the sun shines for a very short time, sufficiently to enable the seeds to ripen, or where their extension is due to the spreading powers of the individual plants. Yet they would form a very beautiful flower garden, and in those frozen wilds they brighten the landscape during the short summer months.

APPENDIX C

LIST OF NAMES GIVEN BY SIR JOHN ROSS, 1818, AND SIR EDWARD PARRY DURING HIS FIRST VOYAGE, 1819–20

Admiralty Inlet, on the south side of Lancaster Sound. Named on the return voyage.

Allison Bay (Ross 1818), Melville Bay, Greenland. Master of the *Alexander*.

Allison Inlet, after the ice-master of the *Hecla*, south coast of Bathurst Island.

Atholl Cape (Ross 1818).

Baker Island, after Captain Thomas Baker, R.N. Near east end of Bathurst Island. Named on return voyage.

Banks Island, named after the President of the Royal Society.

Barlow Inlet, after Sir Robert Barlow of the Navy Board. Cornwallis Island, west side of Wellington Channel.

Barrow's Strait, after Sir John Barrow, Secretary of the Admiralty. Continuation of Lancaster Sound

Barry Bay, north coast of Liddon's Gulf, Melville Island.

Bathurst Island, named after Earl Bathurst, one of H.M. principal Secretaries of State.

Bathurst Bay and *Cape Walter Bathurst*, near Pond's Bay. (Names given by Ross, 1818.)

Beatrice Cape, just outside Lancaster Sound, north side.

Bedford Bay. No reason recorded for giving the name. South coast of Bathurst Island.

Beechey Island, named after Sir William Beechey, the artist. At the east entrance of Wellington Channel.

Beechey Cape, named after the first lieutenant of the *Hecla*. North entrance of Liddon's Gulf, Melville Island.

Beverley Inlet, named after the assistant surgeon of the *Griper*. On the south coast of Melville Island.

Booth Sound (Ross 1818).

Bounty Cape, south coast of Melville Island. Named because that day Parry crossed the 110° meridian, entitling the expedition to a reward of £5,000.

Bowden Cape, on the east side of Wellington Channel.

Bowen Port, named after Captain James Bowen, R.N., Commissioner of the Navy. East coast of Prince Regent's Inlet.

Bridport Inlet, named after Lord Bridport. On the south coast of Melville Island.

Brooking Cuming Inlet, coast of North Devon.

Brown Isles (Ross 1818), Melville Bay.

Browne Island, named after Mr. Henry Browne of Portland Place. A small but lofty island off Cornwallis Island. Named on return voyage.

Bullen Cape, named after Rear-Admiral Joseph Bullen. Coast of North Devon.

Bunny Cape, the north-west point of North Somerset. In reality an island.

Burnet Inlet, south coast of North Devon.

Bushnan Cove, named after a midshipman of the *Hecla*. On the north coast of Liddon's Gulf, Melville Island.

Bushnan Island (Ross 1818), Melville Bay; also midshipman of the *Isabella*.

Byam Martin Island, named after Vice-Admiral Sir T. Byam Martin, Comptroller of the Navy. Between Melville and Bathurst Islands.

Byam Martin Mountains, south side of Lancaster Sound. (Name given by Ross, 1818.)

Byam Martin Cape, near Pond's Bay. (Name given by Ross, 1818.)

Capel Cape, named after Admiral Sir Bladen Capel, a hero of Trafalgar, on return voyage. Eastern point of Bathurst Island.

Cary Islands (Baffin).

Castlereagh Cape, east entrance of Navy Board Inlet, south side of Lancaster Sound. (Name given by Ross, 1818.)

Caswall's Tower, near Cape Riley and Beechey Island.

Catherine Bay, south side of Lancaster Sound. (Name given by Ross, 1818.)

Clarence Cape, north-east point of North Somerset.

Cockburn Cape, named after Admiral Sir George Cockburn. South coast of Bathurst Island.

Cornwallis Island, named after Admiral the Hon. Sir William Cornwallis, Parry's first naval friend and patron. Between Bathurst and North Devon Islands, west side of Wellington Channel.

Crawford Point, named after Mr. William Petrie Crawford. South side of Lancaster Sound.

Croker Bay, named as a consolation ; Parry having obliterated the *Croker Mountains* which Ross had placed across Lancaster Sound. Coast of North Devon.

Cunningham's Mountains, over Cape Warrender, Lancaster Sound. (Name given by Ross, 1818.)

Cunningham Inlet, after Captain C. Cunningham, R.N., Commissioner of Deptford and Woolwich. North coast of North Somerset.

Davy Island, named after Sir Humphry Davy. West of Lowther Island.

Dealy Island, named after a midshipman of the *Hecla*. Off the south coast of Melville Island, entrance of Bridport Inlet.

Devil's Thumb (whalers), Melville Bay.

Devon (*North*), a large island between Lancaster and Jones Sounds. Named after the native county of Lieut. Liddon of the *Griper* on the return voyage, August 29, 1820.

Duck Island, Melville Bay.

Dudley Digges Cape (Baffin), 76° 20′, July 2, 1616.

Dundas Cape. Appropriate for a cape on an island named Melville. Supposed by Parry to be the extreme western point of the Island.

Duneira Bay (Ross 1818).

Eardley Wilmot Cape, entrance of Radstock Bay, North Devon.

Eardley Inlet, named after the Hon. Mr. Eardley on return voyage. Near Cape York, south side of Lancaster Sound.

Edwards Cape, named after the Surgeon of the *Hecla*. In Liddon's Gulf, Melville Island.

Elwin Bay, south side of Lancaster Sound, near Cape York.

Fanshawe Cape, near Pond's Bay. (Name given by Ross in 1818.)

Fife Harbour, after the Greenland master of the *Griper*. Hecla and Griper Bays, south coast of Melville Island.

Fellfoot Cape, a name given at the request of Captain Sabine. South coast of North Devon.

Fisher Cape, named after the surgeon of the *Hecla*. North shore of Melville Island.

Fitzgerald Bay, named after Captain Robert Lewis Fitzgerald, R.N. East coast of Prince Regent's Inlet.

Franklin Point, named after Sir John Franklin, on the return voyage. Admiralty Inlet.

Garnier Bay, north coast of North Somerset. Named on return voyage.

Garrett Island, named after Captain Henry Garrett, R.N. Between Lowther and Bathurst Islands.

Gascoyne Inlet, named after General Gascoyne. Near Cape Riley, North Devon.

Giffard Cape, named at the request of Lieutenant Hoppner after a gentleman well known in the literary world. North coast of North Somerset.

Gillman Cape, named after Sir John Gillman. South point of Byam Martin Island.

Graham Moore Bay, named after Admiral Sir Graham Moore. South coast of Bathurst Island.

Graham Moore Cape, near Pond's Bay. (Name given by Ross in 1818.)

Griffith Island, named after Rear-Admiral Edward Griffith. An island about 12 miles from the south coast of Cornwallis Island.

Griffiths Point, named after a midshipman of the *Hecla*. South coast of Melville Island, near east end.

Halse Cape, named after the clerk of the *Hecla*. South coast of Melville Island.

Hay Cape, named after the private secretary of the First Lord. Near Cape Dundas, Melville Island.

Hay Cape, south entrance of Lancaster Sound. A fine cliff with extensive loomery. (Name given by Ross in 1818.)

Hearne Point, named after the North American explorer, discoverer of the Coppermine River. South coast of Melville Island.

Hecla and Griper Gulf, named after the two ships. On the north side of Melville Island. *Hecla and Griper Bay* on south coast of Melville Island. The first place the two ships had dropped anchor since leaving the coast of Norfolk, September 5, 1819.

Herschel Point, named after Sir William Herschel. In Maxwell Bay, coast of North Devon.

Hobhouse Inlet, named after Sir Benjamin Hobhouse, a relation of Parry. Coast of North Devon.

Home Cape, named after Sir Everard Home. West entrance of Croker Bay, North Devon.

Hooper Cape, named after the purser of the *Hecla*.

Hope Monument, named after Sir George Hope. North entrance of Lancaster Sound. (Name given by Ross in 1818.)

Hoppner Cape, named after a lieutenant of the *Griper*, captain of the *Fury* in Parry's third voyage. South entrance of Liddon's Gulf, Melville Island.

Hoppner Cape (Ross 1818), west coast of Greenland.

Horsburg Cape (Ross 1818).

Hotham Cape, named after Admiral the Hon. Sir Henry Hotham. South-east point of Cornwallis Island. Parry thought it like two boats turned bottom up.

Hurd Cape, named after Captain Hurd, the Hydrographer. Coast of North Devon.

Innes Cape, Wellington Channel, west side.

Jackson Inlet, named after Captain Samuel Jackson, R.N. Near Port Bowen, Prince Regent's Inlet.

Kater Cape, named after Captain Henry Kater, commissioner of the Board of Longitude. Furthest point seen, east side of Prince Regent's Island.

Lancaster Sound (Baffin).

Leopold Isle, named after Prince Leopold, afterwards King of the Belgians. Off north-east point of North Somerset.

Leopold Port, near the north-east point of North Somerset.

Here Sir James Ross wintered in 1848–9. Parry took the land here to be another island.

Leven Islands (Ross 1818).

Lewis Cape (Ross 1818). Greenland master of the *Isabella*.

Liddon Gulf, named after Commander Liddon of the *Griper*, father of Canon Liddon. West side of Melville Island.

Liverpool Cape, south entrance of Lancaster Sound. (Name given by Ross in 1818.)

Lowther Island, named after Viscount Lowther, a Lord of the Treasury. In Barrow Strait, south-west of Griffith Island.

Martyr Cape, named after a much esteemed friend of Parry. On south coast of Cornwallis Island.

Maxwell Bay, on the coast of North Devon, after a friend, Mr. Maxwell.

Melville Bay (Ross 1818).

Melville Cape (Ross 1818).

Melville Island, named after the then First Lord of the Admiralty.

Melville Monument (Ross 1818).

Moore (see *Graham Moore*).

Mudge Cape, named after Colonel Mudge, R.A., Commissioner of the Board of Longitude. Furthest point seen on Sabine Peninsula, Melville Island.

Murdock Cape (Ross 1818).

Navy Board Inlet, south side of Lancaster Sound.

Nias Point, named after a midshipman of the *Hecla*, afterwards Sir Joseph Nias, K.C.B. On the north coast of Melville Island.

North Georgian Islands, name Parry gave to *North Devon*, *North Somerset*, *Cornwallis*, *Byam Martin*, *Bathurst*, *Melville*, *Banks*, and *a dozen smaller islands*.

Osborn Cape, northern entrance of Lancaster Sound. (Name given by Ross in 1818.)

Palmer Cape, after a midshipman of the *Hecla*. South coast of Melville Island.

Parry Cape (Ross 1818).

Pateshall Cape, named after Captain Nicholas Lechmere Pateshall, R.N. East side of Croker Bay, North Devon.

Pond's Bay, west side of Baffin's Bay. (Named after the Astronomer-Royal by Ross in 1818.)

Possession Bay, near Pond's Bay. (Named by Ross in 1818.)

Powell's Inlet, north side of Lancaster Sound.

Prince Regent's Inlet, the great inlet on the east side of North Somerset, so named on August 12, the Prince Regent's birthday.

Providence Cape, south coast of Melville Island. So called because here Parry was relieved of some anxiety about a shooting party, September 13, 1819.

Radstock Bay, named after Lord Radstock, at the request of Commander Liddon. North Devon.

Red Head.

Regent's Bay (Ross 1818).

Reid Cape, named after a midshipman of the *Griper*. North coast of Melville Island.

Rennell Cape, named after Major Rennell, the greatest of British geographers. On the north coast of North Somerset. Named on the return voyage.

Ricketts Cape, named after Captain Tristram Robert Ricketts, R.N. West point of Radstock Bay, North Devon.

Rigby Bay, near Cape Hurd, coast of North Devon.

Riley Cape, named after Mr. Richard Riley of the Admiralty. The south-west point of North Devon.

Rosamond Cape, west side of Croker Bay, Lancaster Sound. (Name given by Ross.)

Ross Point, named after James C. Ross, a midshipman of the *Hecla*. South coast of Melville Island.

Sabine Islands (Ross 1818).

Sabine Peninsula, supposed by Parry to have been an island. Named after Captain (Sir E.) Sabine, R.A. North end of Melville Island.

Sanderson's Hope, Davis, June 30, 1587; Baffin, May 30, 1616, 72° 12′ N.

Saunders Island.

Seddon Cape.

Sepping Cape, named after Sir Robert Sepping, one of the surveyors of the Navy. North Somerset.

Shackleton Cape (Ross ?). The whalers call it Horse's Head.

Skene Bay, named after a midshipman of the *Griper*. South coast of Melville Island.

Somerset (*North*), the great island with Barrow Strait to north, Prince Regent's Inlet to east, Peel Sound to west, and separated from Boothia to south by Bellot Strait. Named after Parry's native county, on the return voyage, August 29, 1820.

Somerville Island, named after Parry's friend Dr. Somerville. A small low island off Cornwallis Island, named on return voyage.

Spencer Cape, Wellington Channel, west side.

Stratton Inlet, on the coast of North Devon.

Thom Island (Ross 1818). He was purser of the *Isabella*.

Three Sister Bees.

Wakeman Cape, named after Mr. Cyrus Wakeman, clerk of the *Griper*. South coast of Melville Island.

Walker Cape, named after the cartographer of the Admiralty and India House. To the south of Parry's track. "The land to the southward was high and bold, terminating to the eastward by a bluff headland."

Walker Cape (Ross 1818), Melville Bay.

Warrender Cape, on the north side of the entrance to Lancaster Sound. (Name given by Ross in 1818.)

Wellington Channel, named after the great Duke. Between Cornwallis Island and North Devon.

Wilcox Head (Ross 1818), Greenland mate of the *Isabella*.

Wilmot, Cape Eardley (see *Eardley Wilmot*).

Winter Harbour, in Melville Island, where *Hecla* and *Griper* wintered 1819–20.

Wollaston Islands, after Dr. William Wollaston, one of the Commissioners of Longitude. Navy Board Inlet. Named on return voyage.

Wolstenholme Island, Baffin, July 3, 1616.

Wolstenholme Sound, Baffin, July 3, 1616.

Woman Islands (include Upernivik), 72° 45′, Baffin.

York Cape, near entrance of Prince Regent's Inlet, to east.

York Cape (Ross 1818).

Yorke Cape, after the Right Hon. Charles Yorke. East side of Admiralty Inlet. Named on the return voyage.

Young Island, named after Dr. Thomas Young, secretary to the Board of Longitude. South-west of Lowther Island.

PLACES NAMED AFTER OFFICERS OF SIR JAMES ROSS'S EXPEDITION, 1848–9

Abernethy Point, Matty Island, after the ice-master of the *Enterprise*.

Bird Cape, northern point of the western entrance of Bellot Strait, named after the captain of the *Investigator*, 1848–9.

Briggs Point, after the purser of the *Enterprise*.

Court Point, west coast of North Somerset, named after the second master of the *Enterprise*.

M'Clure Cape, on the west coast of North Somerset.

M'Clure Cape, on the east coast of Prince of Wales Island.

M'Clure Strait, between Melville and Banks Islands, named after the first lieutenant of the *Enterprise*, afterwards captain of *Investigator*.

Matthias Mount, east side of Prince of Wales Island, after the assistant surgeon of the *Enterprise*.

Whitehead Point, on the west coast of North Somerset and east coast of Prince of Wales Island, after the clerk in the *Enterprise*.

PLACES NAMED AFTER OFFICERS AND MEN OF CAPTAIN AUSTIN'S EXPEDITION

(* In Ross's expedition.)

Aldrich Cape, Bob Aldrich, first lieutenant H.M.S. *Resolute*. A cape on the west coast of Bathurst Island.

Allard Island, after the master of the *Pioneer*. On the north coast of Bathurst Island.

Allen Bay, after Robert Calder Allen, master of the *Resolute*. Coast of Cornwallis Island.

Austin Channel, between Bathurst and Byam Martin Islands.

Bailey, private Royal Marines, H.M.S. *Assistance*. Point on north coast of Liddon's Gulf, Melville Island.

Bance, H. P. mate H.M.S. *Assistance*. Point in Ommanney Bay.

Bradfort Point, after the surgeon of the *Resolute*.

Brooman Cape, purser of the *Resolute*. On the east side of M^c^Dougall Channel.

**Browne Bay*, after Lieut. W. Browne, H.M.S. *Resolute*. On the east side of Prince of Wales Island.

Cator Harbour, after the lieutenant commanding the *Intrepid*. In Sherard Osborn Island.

Cheyne Island, off north-east coast of Bathurst Island.

**Cheyne Point*, after a mate in the *Resolute*. South-east end of Griffith Island.

**Dean Point*, after the carpenter of H.M.S. *Assistance*. In Ommanney Bay.

Donnet Hill, after the surgeon of H.M.S. *Assistance*. An eminence on Prince of Wales Island.

Ede Point, on Prince of Wales Island, after the assistant surgeon of the *Assistance*; wrongly spelt "Edye" on the chart.

**Hull Island*, after the carpenter of the *Resolute*. Off Byam Martin Island.

Hamilton Island, off the north end of Melville Island.

Hamilton Island, off Russell Island. Named after mate of the *Assistance*, lieutenant of *Resolute*.

Harrison Bay, after the clerk in charge of the *Assistance*. On Prince of Wales Island.

Harwood Island, named after the engineer of the *Pioneer*. North coast of Bathurst Island.

Hoile Point, north end of Melville Island. Named after the sailmaker of the *Resolute*, 1850–54.

King Point, named after the assistant surgeon of the *Resolute*. On the east coast of Melville Island.

Krabbé Point, on the north coast of Russell Island.

Krabbé Point, on the north coast of Prince Patrick Island, after the second master of the *Assistance*.

**Langley Point*, Byam Martin Island, after the boatswain of the *Resolute*.

M^c^Clintock Cape, Prince Patrick Island.

M^c^Clintock Channel, between Prince of Wales and Victoria Islands, after the first lieutenant of the *Assistance*.

**M^c^Clintock Point*, on the north coast of North Somerset.

M^c^Dougall Channel, between Bathurst and Cornwallis Islands, after the second master of the *Resolute*. He thought it was a bay, but Sir John Franklin had sailed through it 1845.

Markham Island, off the north end of Melville Island. After a midshipman in the *Assistance*.

Markham Point, on the north-west side of M^c^Dougall Channel.

Markham Strait, named by Amundsen.

May Inlet, north coast of Bathurst Island, after a mate in the *Resolute*.

Mecham Cape, the south point of Prince Patrick Island, after the third lieutenant of the *Assistance*, 1850–51.

Mecham Island, in the strait between Russell and Prince of Wales Islands.

**Murray Harbour*, west coast of Sabine Peninsula, after George Murray, quartermaster, *Intrepid*.

Ommanney Bay, Prince of Wales Island, after the captain of H.M.S. *Assistance*.

Organ Heights, Prince of Wales Island, after the quartermaster of the *Pioneer*.

Osborn Cape, on the west coast of Prince of Wales Island.

Osborn Island, north coast of Bathurst Island.

Osborn (*Sherard*) *Point*, west coast of Melville Island, after the lieutenant commanding the *Pioneer*.

Pearse Inlet, on the west coast of Bathurst Island, after the mate in the *Resolute*.

Picthorn Bay, Jones's Sound, after the assistant surgeon in the *Pioneer*.

Purchase Bay, on the west coast of Melville Island, after the engineer of the *Intrepid*.

Richards Point, in Ommanney Bay, after the clerk in the *Assistance*.

**Salmon Point*, in Intrepid Inlet, Prince Patrick Island, after one of M^c^Clintock's sledge crew in all three journeys.

**Shellabeer Point*, in Liddon's Gulf, Melville Island, after the second master of the *Intrepid*.

Tullett Point, west coast of Prince Patrick Island, after the captain of Mecham's sledge, boatswain's mate of the *Assistance*, 1850–51.

Wilkie Point, on the east coast of Prince Patrick Island, after the captain of M^c^Clintock's sledge, 1851.

Young Inlet after Ben Young, captain of the fore-top of the *Resolute*, 1850–51; *Pioneer*, 1852–4.

PLACES NAMED AFTER OFFICERS AND MEN IN THE *RESOLUTE* AND *INTREPID*, 1852–4, WHO ARE NOT IN THE FOREGOING LIST

Cleverly Point, north coast of Melville Island, after the captain of De Bray's sledge.

De Bray Cape, west coast of Melville Island, after the mate commanding M^c^Clintock's depôt sledge.

Domville Point, on the south cape of Prince Patrick Island, after the surgeon of the *Resolute* in 1852–4.

Giddy Point, east coast of Prince Patrick Island, after one of M^c^Clintock's sledge crew, a petty officer of the *Intrepid*.

Green Bay, in Intrepid Inlet, Prince Patrick's Island, after the captain of M^c^Clintock's sledge.

Ibbetts Bay, on the west coast of Melville Island, after the second engineer of the *Intrepid*.

Joy Mount, north side of Liddon's Gulf, Melville Island, after a quartermaster in the *Resolute*, 1852–4.

Kellett Strait, after the captain of the *Resolute*, 1852–4, between Melville and Eglinton Islands.

Nares Cape, Eglinton Island, after a mate in the *Resolute*, 1852–4.

Roche Point, on the west coast of Sabine Peninsula, after a mate in the *Resolute*, 1852–4.

Scott Cape, north coast of Melville Island, after the assistant surgeon of the *Intrepid*, 1852–4.

About 110 places were named after outsiders of sorts from 1849 to 1854.

NAMES GIVEN BY M^c^CLINTOCK AFTER THE VOYAGE OF THE *FOX*

(*Names of Franklin's officers and ships in small capitals.*)

Acland Bay, after Sir Thomas Dyke Acland, Bart. Subscriber £100.

Ackworth Cape.

Archdekne Island, after the commodore of the Harwich Yacht Club.

Barth, Dr., African traveller. Subscriber £5 5*s*.

Benjamin Brodie.

Collinson Inlet, after Admiral Sir Richard Collinson, K.C.B.

Coutts Island, after Messrs. Coutts. Subscribers £50.

Crozier Cape.

Dalgetty Cape, after F. T. Dalgetty. Subscriber £10 10*s*.

Davison Point.

De la Roquette Island. Vice-President, French Geographical Society. Subscriber 1,000 fr. = £40.

Dickens (Charles) Point.

Dixon Island, James Dixon. Subscriber £10.

Edwards Point, after the carpenter's mate, Hobson's sledge.

Erebus Bay.

Eyre Cape, after Governor Eyre, friend of Allen Young.

Fairholme Point.

Fitzjames Island.

FitzRoy Inlet, after Admiral FitzRoy.

Fleury River, McClintock's mother's maiden name.

Foster Point.

Franklin Channel.

Goldsmith Bay.

Gore Point.

Graham Island.

Guillemard Bay, Rev. W. H. Guillemard. Subscriber £5.

Hartstene Point, American captain who brought back the *Resolute.*

Harvey Point, W. Harvey, quartermaster, Allen Young's sledge.

Haughton Cape, after Professor Haughton of Dublin.

Hobson Point, lieutenant of the *Fox.*

Hodgson Point.

Hornby Point.

Irving Island.

Kennedy Harbour, after Lady Franklin's captain of the *Prince Albert.*

La Feuvre Inlet. Subscriber £50.

La Trobe Bay, head of the Moravian Church in London.

Laird (Macgregor) Lake. Subscriber £50.
LE VESCONTE POINT.
Levesque Harbour.
Liardet Point.
LITTLE POINT.
Livingstone Point, after the African traveller.
Maguire Point. Captain Maguire, of the *Plover.* £3 3*s.*
McKinlay Bay. Two Miss McKinlays. Subscribers £2 2*s.*
Murchison Promontory, northern extreme of North America. President of the Royal Geographical Society. Subscriber £50.
Murchinson (Lady) Bay.
Nicholson Cape, Sir Charles Nicholson. Subscriber £3.
Olrik Island, after the Danish Inspector, North Greenland.
Osborn Bay.
Parry Point.
Pasley Bay, General Sir Charles Pasley. Subscriber £25.
Pattinson Harbour, H. L. Pattinson. Subscriber £50.
Petersen Bay, after the Danish interpreter.
Reid Point.
Rendel Cape.
Rennie Point.
Sabine Cape, Major-General Sabine. Subscriber £25.
Savage Point.
Shortland Point.
Sibthorpe Cape.
Simmonds Point, after the boatswain's mate, McClintock's sledge.
Sidney Cape.
Strzelecki Harbour, after Count Strzelecki. Subscriber £25.
Swinburne Cape, after Rear-Admiral Swinburne. Subscriber £30.
Sydney Webb Cape, after Allen Young's brother-in-law.
Tasmania Group, named at the request of Lady Franklin.
Tennant Isle, James Tennant. Subscriber £2.
TERROR BAY.
Thackeray Point, after W. M. Thackeray. £5.
Thompson Point, Alex Thompson, quartermaster, McClintock's sledge.

Toms Island, quartermaster, Hobson's sledge.
Walker Point, after Dr. Walker, surgeon of the *Fox*.
Washington Bay, after the Hydrogapher. Subscriber £21.
Weld Harbour, after the Assistant Secretary of the Royal Society. Subscriber £5.
Wrottesley Inlet, after Lord Wrottesley, President of the Royal Society. *Subscriber* £50.
Young (*Allen*) *Cape*, master of the *Fox*. Subscriber £500.

The west coast of King William Island from Point Victory to Cape Herschel is sacred to the memories of Sir John Franklin's gallant companions; and no names but theirs should be intruded there.

It was Lady Franklin's wish that places should be named after subscribers. The Tasmanian Group was named in gratitude for help and sympathy from the colony of Tasmania, of which Sir John was Governor.

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